Michigan Department of Health and Human Services (MDHHS)

Annex 12 - Pandemic Response Plan
MDHHS Emergency Operations Plan

December 2020

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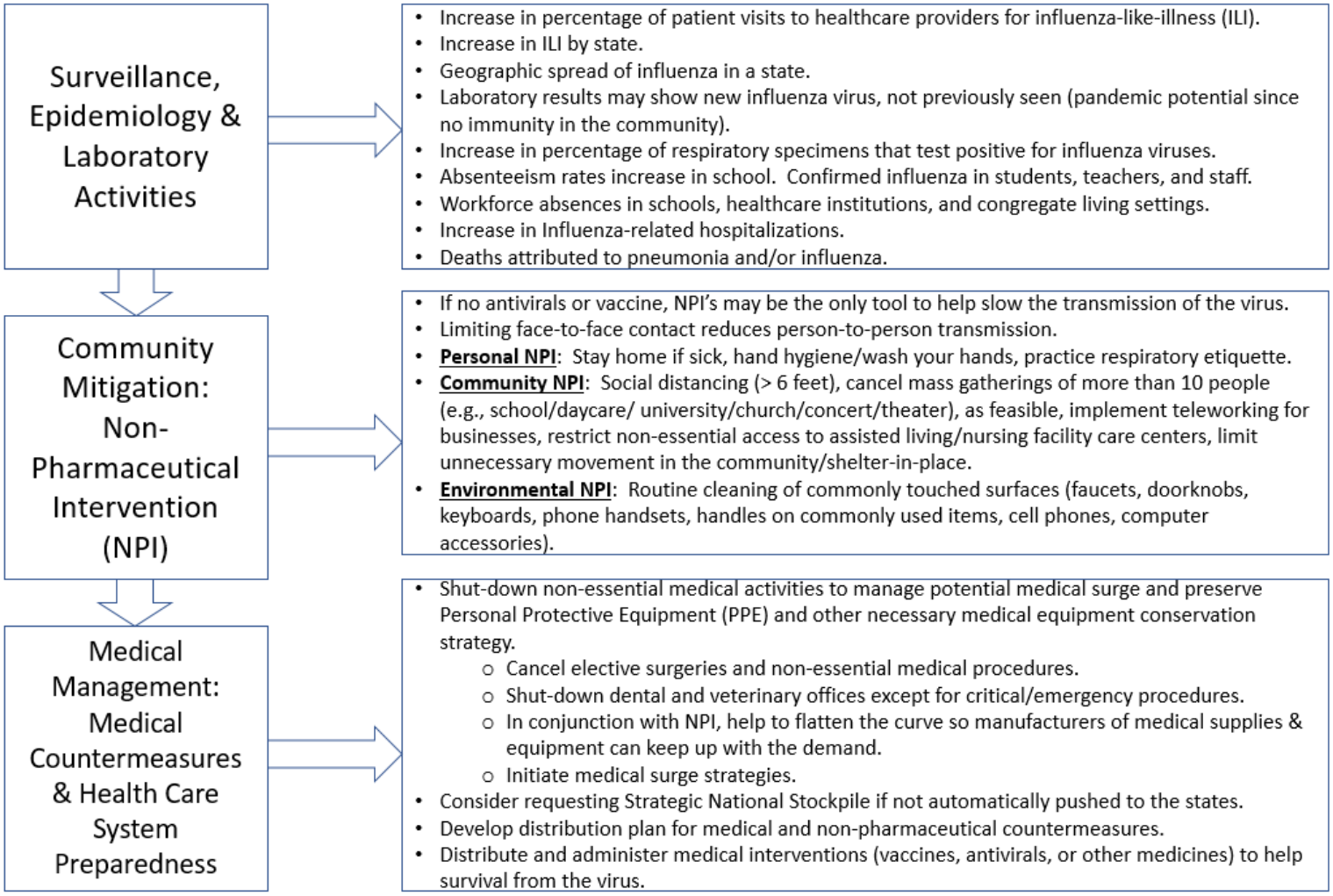
Executive Summary: MDHHS Key Process Steps for Pandemic Preparedness and Response	
Determine the Pandemic Interval[1]	**Interval 1. Investigation of cases of novel strain.** **Interval 2. Recognition of increased potential for ongoing transmission of a novel influenza virus.** **Interval 3. Initiation of a pandemic wave.** **Interval 4. Acceleration of a pandemic wave.** **Interval 5. Deceleration of a pandemic wave.** **Interval 6. Preparation for future pandemic waves.**
Determine the Topic being covered	• **Surveillance, Epidemiology, and Laboratory Activities –Detection of the virus, rapid recognition, and response to the pandemic virus with local and regional health partners.** • **Community Mitigation Measures - Incorporating actions and response measures with local health departments that people and communities can take to help slow the spread of novel virus.** • **Medical Countermeasures: Michigan Strategic National Stockpile Plan and how MI is distributing public health emergency countermeasures to healthcare and public health entities to mitigate the pandemic.** • **Health Care System Preparedness and Response Activities – Determining hospital capacities, PPE shortages and responder safety and health being addressed.** • **Disaster Behavioral Health/Responder Safety & Health/Workforce Psychosocial Support.** • **Communications and Public Outreach - Mechanisms used to communicate with the citizens of Michigan about the Pandemic, in collaboration with local and regional partners.**
Utilize lists of specific actions to perform within each Pandemic Interval for each topic	• **Appendix 1: Surveillance, Epidemiology, and Laboratory Activities Pandemic Interval Checklists** • **Appendix 2: Community Mitigation Measures Pandemic Interval Checklists** • **Appendix 3: Medical Countermeasures Pandemic Interval Checklists** • **Appendix 4 for Disaster Behavioral Health/Responder Safety & Health/Workforce Psychosocial Support** • **Appendix 5: Health Care System Preparedness and Response Activities Pandemic Interval Checklists** • **Appendix 6: Communications and Public Outreach Pandemic Interval Checklists**
Pan Influenza Response Chart	• **Review the "Pandemic Influenza Response Chart" for an overview of Surveillance, Community Mitigation/Non-Pharmaceutical Intervention (NPI), and Medical Management (Medical Countermeasures & Health Care Preparedness).**
Important Numbers	• **Division of Emergency Preparedness & Response (DEPR)/CHECC Duty Officer available 24/7/365: 517-819-0391.**

[1] HHS, 2017. https://www.cdc.gov/flu/pandemic-resources/pdf/pan-flu-report-2017v2.pdf

	• **MDHHS After-Hours Emergency Phone Number: 517-335-9030.** (This number is local public health and healthcare providers)

Pandemic Response Chart



Reference: CDC MMWR, 2017. https://www.cdc.gov/mmwr/volumes/66/rr/rr6601a1.htm

Introduction

Situation Overview

A pandemic occurs when a novel virus emerges, for which the majority of the population has little or no immunity. Pandemics are facilitated by sustained human-to-human transmission, and the infection spreads worldwide over a relatively short period. The first pandemic of the 21st century was an influenza virus that began in 2009, two years after the 2007 strategy for pre-pandemic planning was published by the CDC. Lessons learned during the response to the 2009 H1N1 pandemic underscored the importance of a flexible approach to the use of NPIs, particularly during the early stages of a pandemic, and led to the development of new tools for assessing pandemic severity and pre-pandemic planning.[2]

The Michigan Department of Health and Human Services (MDHHS) developed the Pandemic Influenza Response Plan to prevent, control, and mitigate the effects of influenza viruses that pose high-risk to human health. Influenza viruses, of which there are many types, can cause rapid, widespread disease and death. For Influenza viruses with pandemic potential, the utilization of non-pharmaceutical interventions and community mitigation strategies, and/or the ability to rapidly develop and produce medical countermeasures (MCMs), diagnostics, vaccines, and antiviral drugs will be necessary to mitigate the impacts of the pandemic. These actions, as well as additional preparedness and response efforts, beyond these measures, will be necessary when responding to a pandemic.

MDHHS efforts in pandemic preparedness are closely aligned with seasonal influenza activities. Expanded surveillance, community mitigation efforts, laboratory testing, non-pharmaceutical interventions, vaccine and therapeutics development and distribution, and antiviral drug resistance monitoring are all important concepts of the outbreak response. These activities are aligned with efforts to communicate protective measures to the public, as well as to help the public health and healthcare system manage the demands of seasonal and pandemic influenza.[3]

Purpose

The MDHHS Pandemic Response Plan serves to inform local, state, tribal, and federal governments; Regional Healthcare Coalitions (HCC); relevant agencies and organizations; and other stakeholders of preparedness and response efforts, which are specific to a pandemic within Michigan. The ultimate goal of the plan is to protect human health and safety before, during and after a pandemic.[4] The approach described throughout the plan supports integrated, flexible, timely and evidence-based response strategies.

Scope

The Plan describes the operational intent for responding to a pandemic and the system that has been developed for operations to take place within Michigan.

[2] CDC MMWR, 2017. https://www.cdc.gov/mmwr/volumes/66/rr/pdfs/rr6601.pdf
[3] HHS, 2017. https://www.cdc.gov/flu/pandemic-resources/pdf/pan-flu-report-2017v2.pdf
[4] HHS, 2017. https://www.cdc.gov/flu/pandemic-resources/pdf/pan-flu-report-2017v2.pdf

Case Definition

Confirmed Case: Virus infection in a patient that is confirmed by the Centers for Disease Control and Prevention (CDC) Influenza Laboratory or a CDC certified public health laboratory using methods agreed upon by CDC and the Council of State and Territorial Epidemiologists (CSTE). Confirmation of viral infections may be made by public health laboratories following CDC-approved protocols for detection of the virus, or by laboratories using a Food and Drug Administration (FDA)-authorized test specific for detection of the virus.

Probable Case: Illness compatible with the virus, particularly for influenza, in a patient meeting any of the exposure criteria below and for whom laboratory diagnostic testing is positive for influenza A, negative for H1, negative for H1pdm09, and negative for H3 by real-time reverse transcription polymerase chain reaction (RT-PCR) and therefore unable to be subtyped.

Case Under Investigation: Illness compatible with influenza in a patient meeting any of the exposure criteria below and for whom confirmatory laboratory test results are not known or pending.

- Patients with recent travel (within <10 days of illness onset) to areas where human cases of influenza virus infection have become infected or to areas where influenza viruses are known to be circulating in animals (poultry).[1]

  OR

- Patients who have had recent close contact (within <10 days of illness onset) with confirmed or suspected[3] cases of human infection with influenza virus. Close contact may be regarded as coming within about 6 feet (2 meters) of a confirmed or suspected case while the case was ill (beginning 1 day prior to illness onset and continuing until resolution of illness). This includes healthcare personnel providing care for a confirmed case, family members of a confirmed case, persons who lived with or stayed overnight with a confirmed or suspected case, and others who have had similar close physical contact.[2]

  OR

- Unprotected exposure to live influenza virus in a laboratory.

Limited data are available for influenza virus in which limited non-sustained person-to-person transmission could not be excluded in some family clusters; limited non-sustained person-to-person transmission of highly pathogenic influenza virus has been reported in several countries following close, prolonged unprotected contact with a severely ill patient, including in household and hospital settings.

Suspected cases of influenza virus infection include probable cases, cases under investigation, and other patients for whom available clinical and epidemiologic information support a diagnosis of infection with influenza virus.[5]

[5] CDC, 2014. https://www.cdc.gov/flu/avianflu/h7n9/case-definitions.htm

An influenza pandemic has three characteristics:

1. Presence of a global outbreak of a novel, virulent influenza virus
2. The novel virus is easily transmitted person-to-person
3. Spread of the novel virus occurs in an efficient and sustained way

Because the virus is new to humans, very few people in the community will have immunity against the pandemic virus, and a vaccine may not be widely available. If a pandemic virus occurs, MDHHS will utilize the Centers for Disease Control and Prevention (CDC) case definition associated with the outbreak.

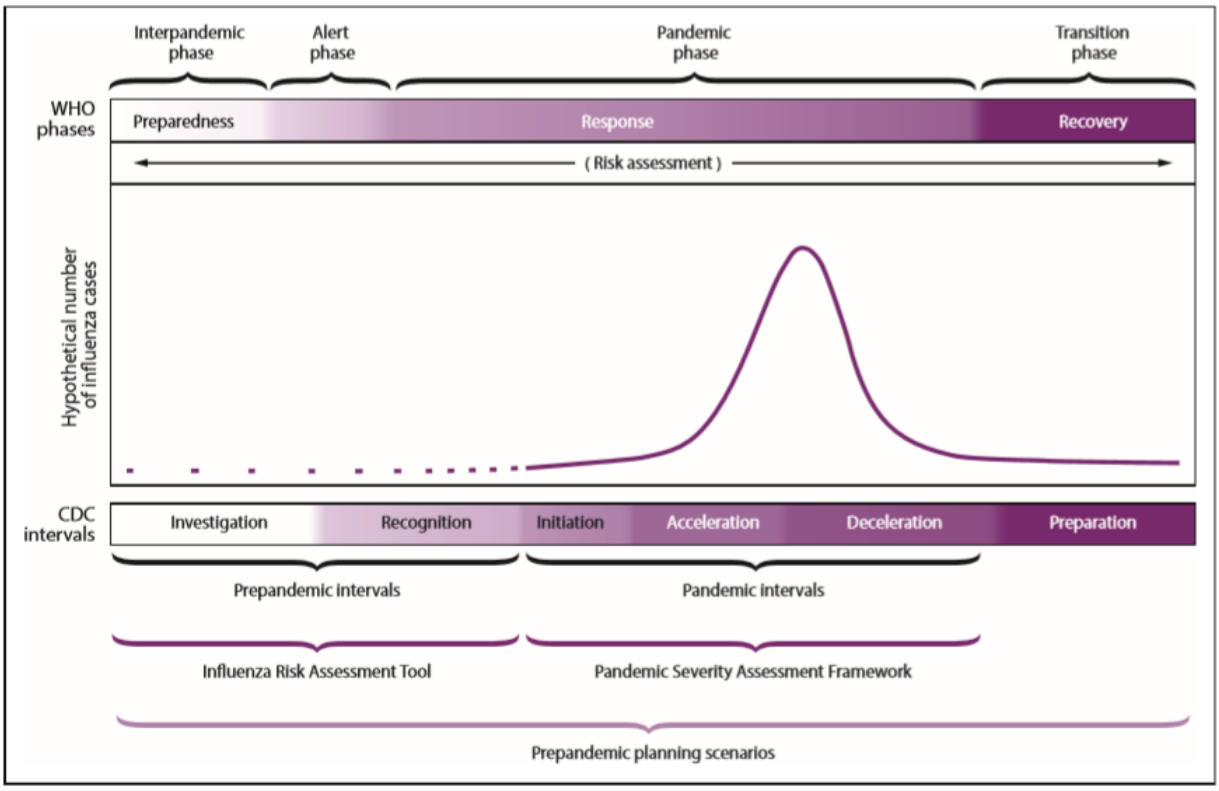
The U.S. Department of Health and Human Services (DHHS) – Pandemic Intervals:
DHHS updated their Pandemic Flu Plan in 2017 to utilize the new pandemic interval system developed by CDC, "Pandemic Intervals Framework," which includes six pandemic intervals. These six intervals replace the U.S. Government Federal Response Stages, published in 2005[6].

The Six Pandemic Intervals Include:

1. **Investigation** of cases of novel influenza
2. **Recognition** of increased potential for ongoing transmission of a novel influenza virus
3. **Initiation** of a pandemic wave
4. **Acceleration** of a pandemic wave
5. **Deceleration** of a pandemic wave
6. **Preparation** for future pandemic waves

[6] https://www.cdc.gov/flu/pandemic-resources/national-strategy/index.html

FIGURE 2. Preparedness and response framework for novel influenza A virus pandemics, with CDC intervals and World Health Organization phases



Source: Adapted from: Holloway R, Rasmussen SA, Zaza S, Cox NJ, Jernigan DB; Influenza Pandemic Framework Workgroup. Updated preparedness and response framework for influenza pandemics. MMWR Recomm Rep 2014;63(No. RR-6).

World Health Organization (WHO) - Risk-based Approach to Pandemic Influenza Phases:
In 2017 WHO revised their Pandemic phases to correlate with risk assessment categories. The new phases are interpandemic phase, alert phase, pandemic phase, transition phase, returning to interpandemic phase. These are presented in Figure 2 and Table 2.

Figure 2: Revised World Health Organization (WHO) Phases[3]

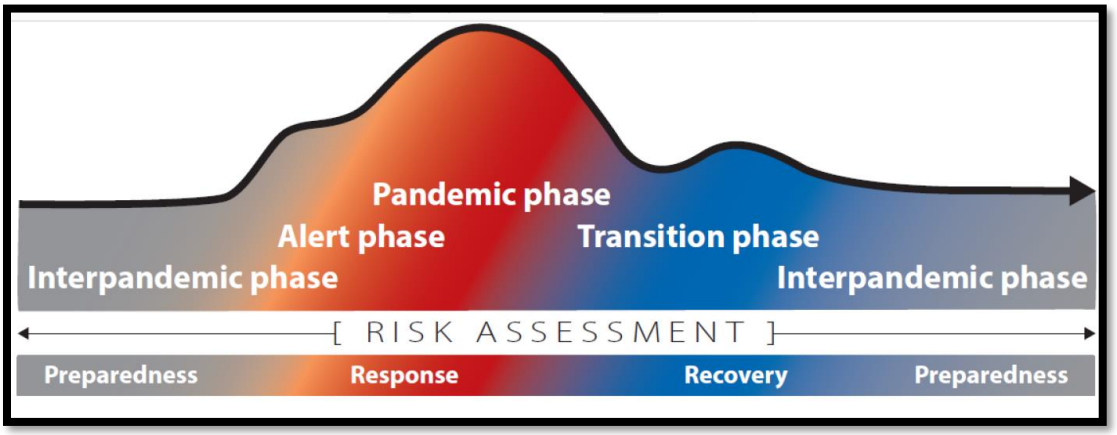


Table 2: Description of the NEW WHO Phases[7]

PHASE	RISK ASSESSMENT CATEGORY	DESCRIPTION
INTERPANDEMIC PHASE	Preparedness	This is the period between influenza pandemics.
ALERT PHASE	Response	This is the phase when influenza caused by a new subtype has been identified in humans. Increased vigilance and careful risk assessment, at local/national/global levels, are characteristic of this phase. If the risk assessments indicate that the new virus is not developing into a pandemic strain, a de-escalation of activities towards those in the interpandemic phase may occur.
PANDEMIC PHASE	Response	This is the period of global spread of human influenza caused by a new subtype based on global surveillance. Movement between the interpandemic, alert and pandemic phases may occur quickly or gradually as indicated by the global risk assessment, principally based on virological, epidemiological and clinical data.
TRANSITION PHASE	Recovery	As the assessed global risk reduces, de-escalation of global actions may occur, and reduction in response activities or movements towards recovery actions by countries may be appropriate, according to their own risk assessments.
[RETURN TO] INTERPANDEMIC PHASE	Preparedness	This is the period between influenza pandemics.

[7] WHO, 2017. https://apps.who.int/iris/handle/10665/259893

Concept of Operations

The Concept of Operations creates a framework for the direction, control, and coordination of activities for the MDHHS Pandemic Influenza Response Plan.

The following sections capture the key information and framework for operationalizing those elements based on the CDC Pandemic Intervals. Elements of this interval approach include investigation, recognition, initiation, acceleration, deceleration, and preparation for the next pandemic, in alignment with Figure 2 on the previous page.

Command and Management

The Bureau of EMS, Trauma, and Preparedness (BETP) is the focal point for the Community Health Emergency Coordination Center (CHECC), to include Subject Matter Experts (SME) from the Public Health Emergency Preparedness (PHEP) program, Healthcare Preparedness Program (HPP), mental and behavioral health, epidemiology, laboratories, public information and risk communication, local health services, aging and adult services, pharmacy, and others. The Division of Emergency Preparedness and Response (DEPR), within BETP, is charged with protecting the health of Michigan citizens in the eight Emergency Preparedness Regions against chemical, biological, natural, and nuclear/radiological threats. (See the MDHHS Emergency Operations Plan (EOP) Executive Summary for more information). It is the responsibility of MDHHS for assuring that applicable Emergency Support Functions (ESF) are addressed, including but not limited to information and planning (ESF 5), mass care (ESF 6), logistics (ESF 7), and serves as the lead agency for public health and medical (ESF 8)[8].

Michigan Emergency Preparedness Regions

DEPR maintains and directs the operations of the CHECC, which supports MDHHS, the State Emergency Operations Center (SEOC), and medical and public health partners. The Director of BETP (or his/her designee) functions as the Incident Response Coordinator in the CHECC. CHECC operational levels include routine operations, response, transition from response to recovery, and recovery to new routine operations. Specific activities which are practiced during each operational level are detailed in the MDHHS EOP Executive Summary. All DEPR staff, and subject matter experts with a role in the CHECC, are trained for their perspective positions and operational activities including incident command responsibilities, should they be assigned. *(See the MDHHS EOP for more information).*

- A CHECC Duty Officer is assigned as the single point of contact for the CHECC 24/7 and can be reached by cell phone at **517-819-0391, and/or at checcdeptcoor@michigan.gov**.
- A BETP Subject Matter Expert is assigned as a resource to the CHECC duty officer for assistance, if needed. In addition, the department maintains medical and public health resource 24/7 emergency phone number **517-335-9030**, staffed by various subject matter experts within MDHHS, and supported secondarily by a MDHHS doctorate-level team member. This number is to support emergent response to issues which cannot wait for normal business hours.
- The Department's two Emergency Management Coordinators for ESF 6 Human Services and ESF 8 Public Health and Medical are also available 24/7/365.

[8] https://www.fema.gov/media-library/assets/documents/25512

Reporting Essential Elements of Information (EEI)
The essential elements of information that must be reported to state and local health departments in order to facilitate a timely and proper response, include:

- All probable or confirmed individuals with the pandemic strain of influenza, until aggregate reporting is implemented.
- Persons Under Investigation (PUI).
- The death of any person confirmed with influenza of the pandemic strain, until directed otherwise.
- Incidents with known or suspected exposure to a person with influenza of the pandemic strain, until directed otherwise.
- Medical and pharmaceutical supply shortages that could affect patient treatment.
- Available personal protective equipment.
- Healthcare challenges associated with the pandemic.
- Other situational awareness.

Planning Assumptions
Planning assumptions have been identified to guide response actions. Although the characteristics of pandemics may vary; listed below are basic assumptions when responding to a pandemic:

- An influenza strain may begin to mutate into a novel strain that was not detected in prior years.
- Surveillance and reporting are necessary to detect cases infected with novel influenza virus.
- Asymptomatic or minimally symptomatic people may transmit infection.
- Pandemics are unpredictable and much may be unknown regarding the strain's etiology.
- Pandemics can start any time of the year and in any country.
- The vast majority of the human population will be susceptible to the novel strain.
- Increased hospitalizations, secondary complications, and mortality are expected to vary widely among population groups and communities.
- Higher rates of fatalities will occur.
- Vulnerable populations such as children, elderly, persons of color, homeless, and others with pre-existing medical conditions may be more severely affected.
- Vaccine development will begin and may take up six or more months to create.
- Availability of antivirals may be insufficient or may not work with the current viral strain.
- Equipment and medical supplies, such as ventilators, masks, gowns, gloves, and face shields, and other PPE may be in short supply.
- The majority of the United States will be involved in pandemic response leading to a potential shortage of healthcare resources, including having to address reduction in available personnel and personal protective equipment.
- Healthcare response may encounter ethical and/or operational challenges.
- The typical incubation period of a pandemic virus may vary[9]. The incubation period (interval between infection and the onset of symptoms) cited by CDC for the specific pandemic strain is what will be used.

[9] Budd et al, 2017. For example, the typical incubation period for Coronavirus is 2 to 14 days. However, for influenza the incubation period is typically 1- 4 days (average two days). Adults shed influenza virus from the day before symptoms begin through 5-10 days after the onset of

- On average, infected people will transmit infection to approximately two to three other people ($R_o = 2$). This will vary depending on the virulence of the strain.[4]
- There may be significant disruption of public and privately-owned critical infrastructure, including: healthcare, government, transportation, commerce, utilities, public safety, agriculture, and communications.
- Attack rate will likely be 30% or higher of the population.
- Virulence will dictate rates of illness, hospitalization, and death.
- Number of cases seeking care will overwhelm healthcare facilities.
- Fatalities will exceed the capacities of morgues, and funeral homes. Mass fatality resources may be required for the storage and management of human remains.
- There may be multiple waves of the pandemic with each wave typically lasting six to eight weeks.[10]
- Critical infrastructure and the medical workforce (e.g., nursing, Emergency Medical Services) may experience 30% or higher absenteeism.[11]
- Locations/counties throughout Michigan may be at different phases of the pandemic; therefore requiring different resources at various times through the response.
- MDHHS and other State of Michigan agencies may activate Continuity of Operations (COOP) and Continuity of Government (COG) Plans.
- Mutual aid agreements may not be utilized due to shortage of supplies and staff throughout the entire State of Michigan.
- May need to partner with private sector entities to address shortages of medical equipment or other resources.
- Non-Pharmaceutical Intervention (NPI) will need to be utilized.
- Various declarations and executive orders by the Governor may be considered and implemented.
- Emergency orders by the State Health Officer may be considered and implemented[12].
- Protective actions and orders may be issued by MDHHS.
- Incident Command Structure (ICS) will be utilized.
- Jurisdictions may have variability on response capabilities.

Assumptions for MDHHS are as follows:

- MDHHS maintains the responsibility to protect the health of Michigan's citizens.
- The MDHHS CHECC may be activated at the discretion of MDHHS executive leadership.
- Procedures and roles developed previously based on the current situation will be developed and utilized.
- MDHHS may have to prioritize essential functions, due to limited staffing; which may lead to gaps in public health services.
- Public health capabilities of MDHHS follow those noted by the CDC.[13] Refer to the MDHHS EOP Executive Summary for additional information.

illness. Young children may shed the virus several days before the onset of illness and children can be infectious for 10 or more days after the onset of symptoms.

[10] CDC, 2016. https://www.cdc.gov/flu/pandemic-resources/national-strategy/intervals-framework.html

[11] CDC MMWR, 2019. https://www.cdc.gov/mmwr/volumes/68/wr/mm6826a1.htm

[12] MI Public Health Code, Act 368 of 1978, as amended. http://www.legislature.mi.gov/(S(wygm1yif21pedozclojhicx2))/mileg.aspx?page=GetObject&objectname=mcl-act-368-of-1978

[13] CDC, 2019. https://www.cdc.gov/cpr/readiness/capabilities.htm.

- The agency will provide recommendations for treatment in as ethical manner as possible. The Crisis Standards of Care document or ethics website may be shared and/or utilized[14].
- Community mitigation practices recommended by MDHHS will be provided to assist local health jurisdictions' decision-making process to protect public health.
- Coordination with local Community Mental Health agencies is anticipated.
- State and local health may leverage financial resources to respond to the pandemic.

Lessons-learned and After-Action Reports/Assessments:

At the conclusion of an incident, there is a need to assess how the emergency response has been conducted through the pandemic intervals. Practices such as identifying areas for improvement in communications of safety and health protocols; examining when and where there were exposures; and noting any difficulties involved in compiling a complete, accurate, and timely roster; all help to improve the safety environment and better protect emergency responder safety and health during the next emergency. Methods to improve response efforts are documented in an After-Action Report (AAR) and associated Improvement Plan.

CDC influenza domains are utilized to describe response actions for each CDC interval. Each of these domains are defined as follows:

1. **Surveillance, Epidemiology, and Laboratory Activities**: Detection of the virus, rapid recognition, and response to the pandemic through the use of surveillance systems, contract tracing, and laboratory testing.
2. **Community Mitigation Measures**: Incorporating actions and response measures people, and communities, can take to help slow the spread of novel virus, to include Non-Pharmaceutical Interventions (NPI)[15].
3. **Medical Countermeasures**: Michigan Strategic National Stockpile Plan describes how Michigan will receive, manage, distribute, and dispense public health emergency medical countermeasures to reduce transmission, mitigate, and respond to the pandemic, to include responding to PPE shortages and protecting responder safety and health.
4. **Health Care System Preparedness and Response:** Efforts to strengthen and enhance the capabilities of the public health and healthcare systems to respond to evolving threats and other emergencies**.**
5. **Communications and Public Outreach**: Communication efforts to protect citizens of Michigan regarding the threats of the Pandemic. Various communication platforms may be utilized with both the public and the media, through trusted sources, alerting systems, press releases and social media.

[14] http://www.mimedicalethics.org/Documentation/Michigan%20DCH%20Ethical%20Scarce%20Resources%20Guidelines%20v.2.0%20rev.%20Nov%202012%20Guidelines%20Only.pdf

[15] https://www.cdc.gov/nonpharmaceutical-interventions/index.html

6. **Scientific Infrastructure and Preparedness**: Discussions regarding the development and/or dispensing of medical countermeasures and supplies. Also, determining data, evaluating reagents, testing supplies and capabilities, and other resources necessary to prepare and respond to the pandemic.
7. **Domestic Response Policy, Incident Management, and Partnerships and Capacity Building**: Rapid issuing of public health orders, executive orders, and declarations.

Surveillance, Epidemiology, and Laboratory Activities

Useful Definitions:

- ***Surveillance*** - "The ongoing, systematic collection, analysis, and interpretation of health-related data essential to planning, implementation, and evaluation of public health practice.[16]
- ***Epidemiology*** - *The* "study of distribution and determinants of health-related states among specified populations and the application of that study to the control of health problems."[17]
- ***Public Health Laboratory Activities*** - Public health laboratories focus on diseases and the health status of population groups. They perform limited diagnostic testing, reference testing, and disease surveillance.[18]

Surveillance has been noted as one of the most critical tools that can be utilized. Surveilling human and animal data for an abnormal increase in incidence of disease is the first step to determining if something more dangerous is looming on the horizon. "Aggressive surveillance measures ensure early detection and isolation of novel virus strains [HHS PFP, 2006]."

Annually, the Bureau of Epidemiology and Population Health (BEPH) monitors and tracks influenza-like illness (ILI) activity through aggregate school-based, sentinel-based, and syndromic surveillance systems. BEPH tracks influenza-related mortality by enhancing communications with the MDHHS Division of Vital Records and Health Statistics to ensure timely and accurate counting of deaths attributable to influenza and pneumonia and enhancing communications with medical examiners to obtain information on influenza, pneumonia, or other respiratory infection-related deaths. MDHHS investigates all pediatric influenza-associated deaths. Autopsy may be a requirement as described in the Medical Examiner's Act, Public Act 181 of 1953[19].

Surveillance systems and tracking efforts include (but are not limited to):

- US Outpatient **Influenza-like Illness Surveillance Network (ILINet)** - A collaborative effort between the CDC, state and local health departments, and volunteer sentinel clinicians used for reporting influenza-like illness. BEPH staff ensure that the ILINet has at least one regularly reporting provider per 250,000 citizens, review participation status of enrolled sites, and recruit new sites, as necessary.

- **Michigan's Disease Surveillance System (MDSS):** MDSS allows for reporting of individual and aggregate numbers of influenza cases. BEPH has developed the trigger to switch from individual to aggregate case reporting in MDSS and from weekly to daily reporting when an increase is seen in

[16] Rasmussen SA and Goodman RA, 2019. https://www.cdc.gov/eis/field-epi-manual/chapters.html
[17] IEA, 2001. *A Dictionary of Epidemiology. Fourth edition, 2001.International Epidemiological Association. John M. Last Editor.* https://pestcontrol.ru/assets/files/biblioteka/file/19-john_m_last-a_dictionary_of_epidemiology_4th_edition-oxford_university_press_usa_2000.pdf
[18] CDC, 2018b. https://www.cdc.gov/publichealth101/index.html
[19] http://www.legislature.mi.gov/(S(h0s11a0buj1vobvghdwf55ni))/mileg.aspx?page=GetObject&objectname=mcl-Act-181-of-1953

disease activity and strain severity. The triggers to switch from individual to aggregate based reporting will be examined in the "Recognition Interval" of the pandemic. This will be communicated to partners through the Michigan Health Alert Network (MIHAN) by the Communicable Disease Division and/or by standard communication pathways available in the CHECC.

- **Michigan Syndromic Surveillance System (MSSS)**: Michigan's primary method of syndromic surveillance is the MSSS, which monitors emergency department chief complaints at hospitals throughout the state in near real time. Regional epidemiologists respond to alerts issued by MSSS as they arise. The alerts indicate when respiratory chief complaints made to emergency departments are elevated.

- **Influenza Hospitalization Surveillance Project (IHSP)**: The IHSP in Michigan provides population-based rates of severe influenza illness through active surveillance and review of lab-confirmed cases in Clinton, Eaton, Ingham, Genesee, and Washtenaw counties. The data in the IHSP will provide a snapshot of the flu activity in Michigan. Since 2019, the Michigan Bureau of Laboratories (BOL) requests for influenza specimen testing were modified to include whether the specimen came from an inpatient or outpatient. This information assists with characterization of disease severity and understanding relationships between genetic variations of viruses.

- **Influenza Hospital Surveillance Network (IHSN):** This system captures the number of influenza-associated hospitalizations in five age categories (0-4 years, 5-17 years, 18-49 years, 50-64 years, and ≥65 years) and the total number of hospitalizations in Michigan. Data are reported weekly by voluntarily participating hospitals from across the state.

- **Virologic Surveillance**: The BOL includes a description of sources of flu specimens for testing at MDHHS and implementation of Right-sizing Model with description of current thresholds for novel/variant strain detection.

- **Michigan EMS Information System (MIEMSIS) and Biospatial:** All EMS responses are recorded and stored in the MI EMSIS database, which provides near real-time data to the Biospatial surveillance tool. Biospatial provides the ability to create case definition-based reports of EMS 911 transports and interfacility transports and GIS mapping of associated data.

- **Zoonotic Surveillance:**
  BEPH consistently monitors clusters of animal illness caused by bacteria, viruses, and parasites spread between animals and humans, that can impact human health. This function is conducted through partnerships with the Michigan Department of Agriculture and Rural Development (including VetNet), U.S. Department of Agriculture, Michigan State University, the University of Michigan Influenza Research and Surveillance Program, veterinarians, fairs, and poultry researchers and producers.

  MDHHS epidemiologists will participate in special surveillance studies (as requested) by the CDC to enhance surveillance. Evaluated by the State Epidemiologist and incorporated in data distributed through various mechanisms.

The following will be monitored by the CHECC Operations Epi Desk throughout various intervals of the pandemic:

- Morbidity and mortality trends
- Unusual pathologic features associated with fatal cases
- Geographic outbreak maps
- Transmissibility factors
- Populations at increased risk for severe disease, hospitalization complications, or death
- Up to date CDC case definition and guidance documents
- Vaccine effectiveness
- Monitoring of the Vaccine Adverse Event Reporting System (VAERS). [VAERS is a United States program for vaccine safety, co-managed by the U.S. Centers for Disease Control and Prevention and the Food and Drug Administration.] VAERS reports would need to be obtained from the Vaccine Safety Coordinator or VAERS Coordinator[20]
- Antiviral resistance
- Requests for data
- Shortages of medical countermeasures and supplies, to include testing supplies.
- Need for analytical testing supplies to assess for the specific virus
- Number of positive and negative laboratory tests reported
- Long-term mitigation strategies to help flatten the epi curve of the pandemic

The MDHHS Director (or designee), as state health officer, may implement a change in reporting requirements at any time in order to protect the citizens of Michigan. If, or when, the MDHHS Executive Group recommends that MDSS data input switches from individual case to aggregate reporting, weekly to daily reporting, the change in reporting methodology will be disseminated to partners via the standard communication capabilities available through the CHECC.

- MDSS will be the primary tool to collect morbidity and mortality data.
- Throughout the pandemic, there will be a concerted effort to increase sentinel physician enrollment and reporting.
- The Michigan Care Improvement Registry (MCIR) will be used to collect information regarding vaccine and antiviral inventory, distribution, administration, and adverse events.
- EMResource will be used to monitor medical capability and capacity data such as bed availability, ventilator availability and use, extra-corporal membrane oxygenation availability, patient hospitalizations, and personal protective equipment. This flexible, robust statewide database can be amended based on the needs of the incident.

Michigan Bureau of Laboratories (BOL)

The Michigan Laboratory Response Network (LRN) includes sentinel hospital and clinical laboratories as sentinels, as well as the BOL, which is the Reference Level Laboratory for the State of Michigan. If BOL exceeds its surge capacity, the BOL has identified clinical laboratories with advanced molecular testing capabilities that may be utilized to provide additional testing staff or services. Further efforts to engage additional lab capacity may occur based on testing strategies.

[20] https://vaers.hhs.gov/

StarLIMS is a secure Laboratory Information Management System (LIMS) that is utilized for exchange of analytical results. **StarLIMS** was implemented at MDHHS Bureau of Laboratories (BOL) in the Spring of 2007. StarLIMS complies with the guidelines and regulations required by Centers for Disease Control and Prevention (CDC), Public Health Information Network (PHIN), Association of Public Health Laboratories (APHL), National Electronic Disease Surveillance System (NEDSS), Clinical Laboratory Improvement Amendments (CLIA), Environmental Protection Agency (EPA) and Clinical and Laboratories Standards Institute (CLSI). "The key feature of StarLIMS is that it allows for interoperability between computer systems to provide "real time, secure electronic transfers of data via intranet and/or internet to other public health departments and/or agencies.

In Appendix 1, checklists are presented for each interval response for the ***Surveillance, Epidemiology, and Laboratory topics***. The MDHHS entity responsible to address each of these activities is listed below each Phase activity grouping.

Community Mitigation/Non-Pharmaceutical interventions (hand-washing, social/physical distancing, traveler messages)

Useful Definitions:

- ***Nonpharmaceutical Interventions (NPIs)*:** Actions, apart from getting vaccinated and taking medicine, that people and communities can take to help slow the spread of illnesses like pandemic influenza (flu). NPIs are also known as community mitigation strategies.[21]
- ***Personal NPI***: Stay home if sick, hand hygiene/wash your hands, practice respiratory etiquette.[22]
- ***Community NPI***: Social distancing (> 6 feet), cancelling mass gatherings of more than 10 people (e.g., school/daycare/ university/church/concert/theater), as feasible, implement teleworking for businesses, restrict non-essential access to assisted living/nursing facility care centers, limit unnecessary movement in the community/shelter-in-place. [17]
- ***Environmental NPI***: Routine cleaning of commonly touched surfaces (faucets, doorknobs, keyboards, phone handsets, handles on commonly used items). [17]
- ***Isolation*** **"**separates sick people with a contagious disease from people who are not sick."[23]
- ***Quarantine*** "separates and restricts the movement of people who were exposed to a contagious disease to see if they become sick."[18]

Community Mitigation Measures

The MDHHS Executive Committee and Subject Matter Experts (SME) will make recommendations for the implementation of community containment measures based on federal, LHD, and subject matter experts' input. This includes:

- Coordination with other state agencies, partners, stakeholders, and the public of possible public health mitigation measures that could occur based on the severity category, WHO Phase, and Federal Stage of an influenza pandemic.
- The University of Michigan School of Public Health "Pandemic Issues Workgroup" has developed a draft template of guidance to schools regarding alert, standby and activate modes of response[24].
- Laws and authorities associated with community mitigation measures will be reviewed.
- Roles, responsibilities, and authorities of state and local officials for implementation of community mitigation measures will be delineated.
- Community mitigation measures will be implemented as indicated.
- Consider the implementation of hotels to provide isolation for individuals who cannot otherwise isolate at home.
- Act as liaison between national and local government by disseminating national guidelines, advisories, and alerts as they relate to community mitigation decisions.
- Communicate messages, alerts, advisories, or other types of information using media outlets such as TV, radio, MIHAN, blast fax, email, social media, community events, phone conferences or other forms of communications.

[21] CDC, 2020b. https://www.cdc.gov/nonpharmaceutical-interventions/index.html.
[22] CDC MMWR, 2017. https://www.cdc.gov/mmwr/volumes/66/rr/rr6601a1.htm
[23] CDC, 2020a. https://www.cdc.gov/quarantine/QuarantineIsolation.html
[24] https://record.umich.edu/articles/committee-to-support-u-m-health-efforts-during-pandemic/

- MDHHS has, and will continue to enhance, state and community mitigation guidelines that can be modified and adapted at the local level.
- Develop and implement, with federal guidance and input from local partners, a system for monitoring/tracking isolation and quarantined persons at the local and state levels. MDHHS has the capability to identify and monitor contacts through a web-based contact tracing program, the Outbreak Management System (OMS).
- Promote individual and organizational responsibility for emergency planning. Plans will incorporate the following:
    - Plan for ill (e.g., fever and respiratory symptoms) individuals to remain at home.
    - Plan for all household members of a person who is ill to voluntarily remain at home.
    - Plan for dismissal of students from school and childcare closure.
    - Plan for workplace and community social distancing measures.
- Evaluate appropriate isolation and quarantine strategies of individuals (passive or active monitoring) and the mass populace (focused measures to increase social distances) where disease transmission is occurring.
    - Strategies involving home isolation or quarantine of cases will require the appropriate use of hygiene and infection control practices in the home setting. MDHHS will provide further guidance.
- Issues regarding the care of home isolated or home quarantined cases must address the financial, social, physical, and mental health needs of patients and caregivers. This includes Individuals with disabilities, aged population, and those requiring durable medical equipment.
- Assist Local Health Departments (LHDs) with the identification of non-traditional healthcare community facilities for isolation and quarantine in the event of an influenza pandemic.
- Assist LHDs with the planning and implementation of community mitigation measures to plan for implementation of social distancing throughout the state.
- Schools, to include colleges and universities, will need to be considered when creating and implementing public health emergency orders for community mitigation strategies.
- Coordinate implementation and maintenance of community mitigation plans/measures between LHDs and Healthcare agencies.
- PPE considerations:
    - Determine the quantity of PPE required for first responders, first receivers, or other stakeholders statewide and create a state-held cache if funding is available.
    - Maintain contact list of suppliers for emergency procurement and distribution.
- Maintain surveillance activities for novel and pandemic strains of influenza.
- For suspected novel strain influenza cases, actively and/or passively monitor asymptomatic contacts with or without public health orders.

Community Mitigation Measure Activities are presented by response phase In Appendix 2, (Investigation, Recognition, Initiation, Acceleration, Deceleration, and Preparation). The MDHHS entity responsible to address each of these activities is also listed below each Phase activity grouping.

Medical Countermeasures (MCM): Diagnostic Devices, Vaccines, Therapeutics, and Respiratory Devices:

Useful Definitions:

- ***Medical Countermeasures**:* Medicines and medical supplies that may be used to prevent, mitigate, or treat the adverse health effects of an intentional, accidental, or naturally occurring public health emergency.[15]

Medical countermeasure dispensing and administration is the ability to provide medical countermeasures to targeted population(s) to prevent, mitigate, or treat the adverse health effects of a public health incident, according to public health guidelines. This capability focuses on dispensing and administering medical countermeasures, such as vaccines, antiviral drugs, antibiotics, and antitoxins.[25]

During widespread illness or a pandemic, demand for antivirals may exceed available supplies, and prioritization of who should receive antivirals may occur. MDHHS will follow CDC recommendations and follow the *Michigan Strategic National Stockpile (MISNS) Plan*.

If vaccine is available, the MDHHS Vaccine Safety Coordinator and VAERS Coordinator will participate in national and state planning and surveillance efforts. Decisions on whether to administer antivirals during short supply for chemoprophylaxis will consider the exposed person's risk for influenza complications, the type and duration of contact, recommendations from local or public health authorities, and clinical judgment. The following resources will aid in the process of dispersing and administering of Medical Countermeasures.

- The *Michigan Care Improvement Registry (MCIR)* will be used for tracking adult and child vaccine and pharmaceutical administration. A procedure for tracking bulk shipments of vaccine using the MCIR has been developed and LHDs and healthcare providers are trained on its use.
- The *MISNS Plan* outlines the responsibilities and procedures for distributing public health emergency medical countermeasures before or during a public health emergency. The *Michigan Strategic National Stockpile (MISNS) Plan* addresses all elements of distribution and administration logistics for countermeasures, including vaccines. The *MISNS Plan* is, at a minimum, reviewed and updated annually by the BETP MCM Coordinator.
    - State and local MCM/SNS planning processes are inherently integrated together. Planning goals and objectives are determined by the MDHHS BETP, based upon comprehensive guidance from CDC and cooperative input from response partners. The MISNS Plan is maintained by BETP staff. At the state level, the MDHHS BETP coordinates with appropriate partners to address requirements related to its MISNS Plan. At the local level, local health department Emergency Preparedness Coordinators (EPCs) and Regional Healthcare Coalition Coordinators work collaboratively with emergency management, hospitals, and other first responder agencies to develop their jurisdiction specific MCM/SNS procedures.
    - Once the deployment of the SNS has been authorized, a Receipt, Stage, and Store (RSS) warehouse will be activated to receive, stage, and store medical countermeasures such as pharmaceuticals, medical equipment, and surgical supplies. Medical countermeasures will

[25] CDC 2019. https://www.cdc.gov/flu/pandemic-resources/pdf/2018-Influenza-Guidance.pdf

be distributed to local health department distribution nodes and treatment centers within Michigan. The RSS will remain operational until instructed by the CHECC to implement the demobilization plan, based on response activities.

- The initial order to activate the RSS along with the location of the RSS will originate from the CHECC established procedures. The activation, operation, and deactivation of the RSS will be closely coordinated through the CHECC in collaboration with the SEOC. A brief summary of state and local MCM/SNS responsibilities in the State of Michigan is listed below:

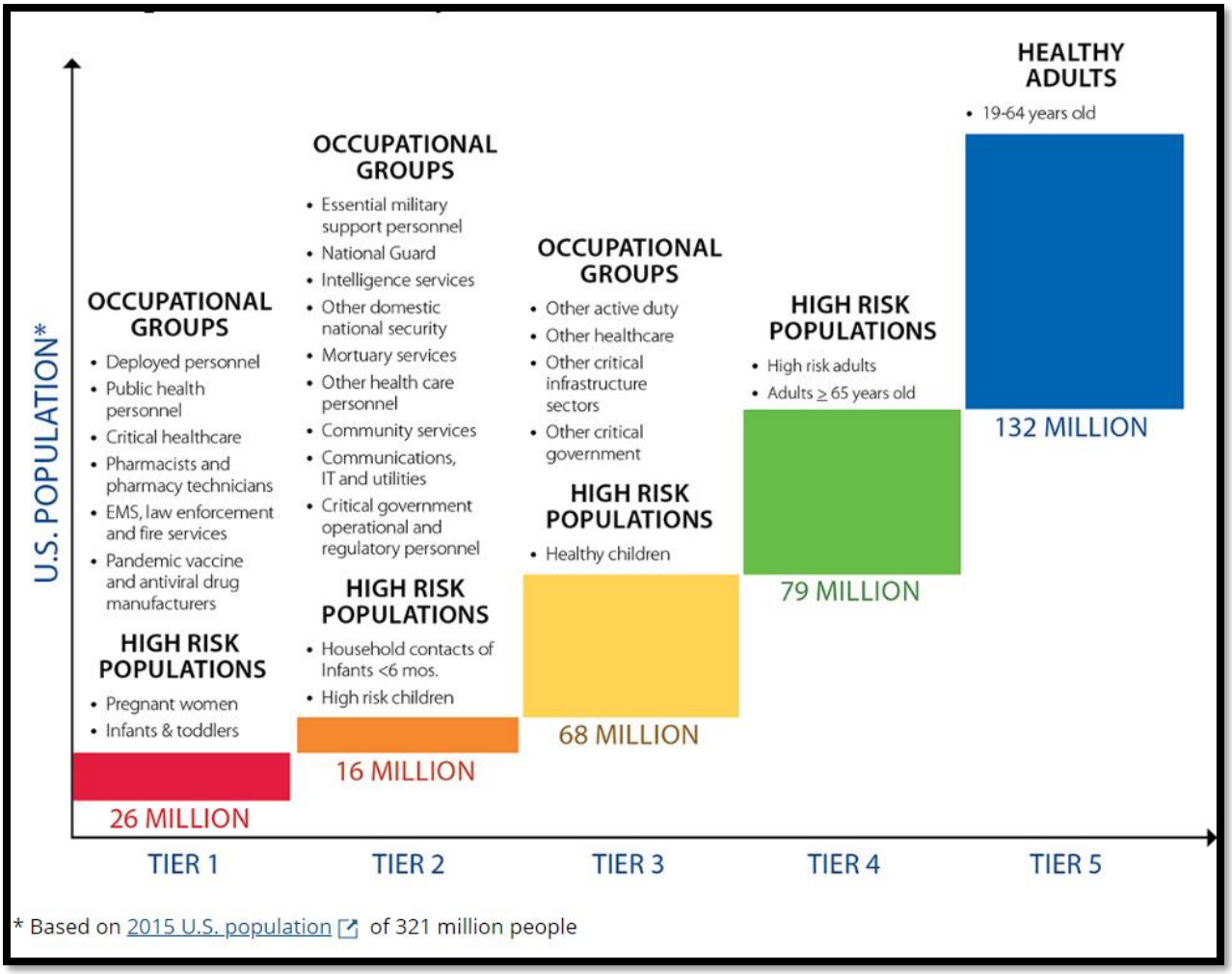
- State of Michigan SNS Responsibilities
  - Submit first request for MCM to the DHHS.
  - Receive, allocate, and Store MCM for distribution.
  - Apportion and track MCM, as necessary.
  - Deliver MCM to local health departments and hospitals.
  - Dispense MCM to state-level essential personnel.
  - Secure MCM assets while in State custody.
  - Demobilize at the completion of response and return materials as directed.

- Local Agencies SNS Responsibilities
  - Request SNS based on local needs.
  - Request assistance from the State, as needed.
  - Identify and develop operational plans for hospitals, Distribution Nodes, and dispensing sites/mass vaccination clinics.
  - Staff and equip warehouse and Point of Dispensing (POD) locations.
  - Dispense MCM to the general public, at-risk populations, and essential personnel.
  - Utilize Alternate Care Sites for treatment and to dispense MCM when necessary.
  - Provide the public with current and accurate information regarding the incident.
  - Secure SNS assets while in local custody.
  - Track SNS assets to individual level.
  - Return SNS materials as directed.
  - Demobilize at the completion of the response.

In the event of a pandemic, there could be up to six months, or more, waiting period before vaccine is produced and distributed. During this time, local health departments will be activating their *Mass Vaccination Plans*, which includes enrolling providers and pharmacies to be vaccine administration sites.

- MCIR is a secure web-based system designed to collect vaccine administration information to the individual level. During a pandemic, the MDHHS executive group in the CHECC will recommend the activation of the MCIR All-Hazards component.
- As guided by CDC, a priority listing of groups needing vaccine will be established. This list will be updated as new recommendations are distributed by the federal government according to the epidemiology of the pandemic and available supplies of medical countermeasures. As of 2018, a five-tier system is being utilized for vaccination of groups during a high or very high level of pandemic severity. Refer to Figure 3 for more detail.

Figure 3: Vaccination tiers and population groups for a high/very high level of pandemic severity[26]



- Recommendations and strategies for the use and distribution of vaccines and antiviral agents in the event of shortages will be developed. This process varies depending on if the MCMs are antivirals versus vaccines (or both).
    - In order to address the critical timing issues associated with distributing antivirals to local jurisdictions, a node strategy for distribution of the SNS has been implemented. This model provides for the delivery of MCM from the State RSS to a pre-identified distribution point located within each LHD jurisdiction. The state will also deliver MCM directly from the RSS to the hospitals.
    - If distributing vaccines, the MCM is expected to be delivered directly to the point of care and then would be administered there, at the discretion of MDHHS.

[26] CDC, 2018a. https://www.cdc.gov/flu/pandemic-resources/pdf/2018-Influenza-Guidance.pdf

- LHDs, in collaboration with the Local Emergency Operation Centers (LEOC), are responsible for the transportation and security of MCM within the local jurisdiction to the PODs, and in some instances, between Points of Distribution (PODs). Additionally, further allocation and delivery of MCM from hospitals to other locally determined sites will be determined by the local jurisdiction.
- The method used to distribute MCM from the RSS to local facilities will be determined by the CHECC. The primary method for transporting MCM in Michigan will be via motor vehicle. However, situations may arise where alternative delivery means may be necessary as an exception to policy, such as delivery to the Upper Peninsula via aircraft or to other areas within the State as situationally necessary. A detailed Air Transport Plan has been developed and extensively tested for this contingency.
- Pre-Pandemic Vaccine Distribution: MDHHS will refer to the most current CDC pre-pandemic vaccine guidance for pre-pandemic vaccine deployment, shipping, and storage requirements prior to requesting the vaccine. If pre-pandemic vaccine is available, it will be requested from the CDC and be shipped to a pre-identified single state location and distributed directly to both treatment centers and local health departments, under the guidance of MDHHS Division of Immunizations.
- Pandemic Vaccine Distribution: MDHHS will refer to the most current CDC Pandemic Influenza vaccine guidance for vaccine deployment, shipping, and storage requirements prior to requesting the vaccine. Pandemic influenza vaccine will be shipped directly to LHD pre-designated vaccine ship to sites by a centralized distributor.
- Antiviral Distribution: The department may decide to pre-deploy state-held antiviral assets or distribute them to facilities including treatment centers and local health departments. Depending on amounts of existing antiviral caches, which is minimal, MDHHS may request antivirals from the SNS and adhere to pre-existing distribution protocols contained within its *MCM/SNS Plan*.
- PPE Distribution: Initially, PPE countermeasures received from the SNS will be distributed through the established SNS process. Other factors may be considered based upon the unique circumstances of the emergency event.
    - Lessons-learned from previous pandemic response has demonstrated that more detail is needed on the categories of PPE that may be required and what can be used instead if that PPE is not available. This approach needs to be assessed for supplies such as masks, gloves, gowns, face shields, face masks, and N95 respirators.
    - To prolong the availability of PPE, N95's and surgical masks should be prioritized for front-line healthcare workers. These masks are not meant for the general public.
    - Face shields and facemasks can be used by first responders, EMS, and other healthcare workers depending on the level of patient interaction.
    - Face covers or scarves can be worn to protect against droplet exposure.
- Medical Treatment Distribution: Equipment and supply countermeasures purchased and managed by the State of Michigan will initially be distributed based upon population size and risk assessment through the established SNS process. Additional factors may be considered for subsequent distribution. Additionally, some ventilators have been pre-deployed to the regions, under the control of the regional medical directors. A remaining inventory of ventilators is maintained for medical surge by the MDHHS BETP.
- Distribution of medical equipment (ventilators, testing kits, antivirals, vaccinations), and ancillary supplies.
    - If ventilators are to be supplied, paralytics and sedation medicine may need to be obtained for the patients that will be using the ventilators, if the end user medications are unavailable

or in short supply. Verify that supportive ancillary equipment to run the ventilators is also included (e.g., tubing, circuits, etc.).
- If vaccines are to be dispensed, ensure alcohol swabs and syringes are provided.
- For testing kits, order appropriate supplies such as swabs, preservatives, reagents, etc.

In Appendix 3, **Medical Countermeasure (MCM) Activities** are presented by response phase (Investigation, Recognition, Initiation, Acceleration, Deceleration, and Preparation). The MDHHS entity responsible to address each of these activities are also listed below each Interval activity grouping.

Medical Surge/Healthcare System Preparedness and Response Activities/Volunteer Management

Useful Definitions:

- ***Community Integrated Paramedicine (CIP):*** is the use of specially trained Emergency Medical Services Providers/Paramedics to help bridge the gaps in the local healthcare system and improve population health and safety.[27]
- ***Healthcare Coalitions (HCCs):*** are groups of individual healthcare and response organizations – such as hospitals, EMS providers, emergency management organizations, public health agencies, long-term care, and more – working in a defined geographic location to prepare for and respond to disasters and emergencies. [28]
- ***Medical Surge:*** is the ability to provide adequate medical evaluation and care during events that exceed the limits of the normal medical infrastructure of an affected community. It encompasses the ability of the health care system to endure a hazard impact, maintain or rapidly recover operations that were compromised, and support the delivery of medical care and associated public health services, including disease surveillance, epidemiological inquiry, laboratory diagnostic services, and environmental health assessments."[29]
- ***Responder Health*****:** addresses the physical, psychological and social ("psychosocial") needs of occupational groups who participate in the response to an a pandemic."[30] These groups include:
    - Healthcare workers who provide medical care.
    - Emergency field workers and other public health personnel who help control the spread of disease.
    - First responder or non-governmental organizations whose employees assist affected groups (e.g., quarantined persons or patients at home or in hospitals).
    - Local public health workers who interact with the public and may be exposed to the virus.
    - Essential service workers whose activities maintain normal social functions and minimize social disruption.
    - The family members of all of these groups.

When responding to a pandemic, personnel shortages will be encountered. MDHHS has proactive procedures related to medical surge planning that includes:

- Activation of regional Medical Coordination Center to coordinate communications and resources for healthcare workers within the eight preparedness regions.
- Methods and strategies to relocate patients from hospital care to alternate care facilities, when appropriate to do so.
- Cancelling of elective surgeries will free-up staff that can be reallocated to respond to the pandemic. Postponing of non-emergency surgical procedures will also allow redirecting of PPE previously used in surgery to be used by front line healthcare staff.

[27] MDHHS, 2019. https://www.michigan.gov/documents/mdhhs/FAQ..CIPtab.March2019_649703_7.pdf
[28] HHS, 2018. https://www.phe.gov/Preparedness/planning/hpp/Pages/find-hc-coalition.aspx
[29] CDC, 2019. https://www.cdc.gov/flu/pandemic-resources/pdf/2018-Influenza-Guidance.pdf
[30] HHS, 2005. https://www.cdc.gov/flu/pandemic-resources/pdf/hhspandemicinfluenzaplan.pdf

- Use of Community Integrated Paramedicine (CIP) may also be used to reach vulnerable populations. A paramedic may be dispatched to provide assessment and possibly medical support in the home or arrange transport to an alternate location.
- Telehealth is a critical component that can be used to avoid unnecessary trips to the Emergency Department[31].
- Crisis Standards of Care considerations.
- Use of resources and relationships forged through HCCSs. HCCs are funded through ASPR Healthcare Preparedness Program (HPP) that is supported by the Pandemic and All Hazards Preparedness and Advancing Innovation Act (PAHPAI). HCCs serve as both coordinating entities and response bodies and ensure that members have the necessary medical equipment and supplies, real-time information, communication systems, and trained personnel to respond to emergencies."[32]
- Track hospital bed and medical resource availability via "*EMResource*." This system provides a communication pathway during day-to-day or emergency situations. EMResource lists the resources within a geographic area and can flex data elements for response and can be modified to be constantly monitored, as needed, during a disaster. EMResource has the ability to track the following bed availability categories:
    - Emergency Departments
    - Critical Care Facilities
    - Adult ICU
    - Adult Medical-Surge
    - Burn Care Units
    - Pediatric Units
    - Pediatric ICU
    - Psychiatric
    - Negative Pressure Isolation Units
    - Neonatal ICU
    - Obstetric
    - Operating Rooms
- Tracking medical resource availability through EMResource including, but not limited to:
    - Ventilators
    - PPE
    - Respiratory Supplies

Note: Other important healthcare resources may be added as necessary, including other bed types or supplies, depending on critical information needs.

If there is still a further need to increase the number of available hospital beds, the Michigan Transportable Emergency Surge Assistance (MI-TESA) Medical Unit can be considered. "MI-TESA is a state resource consisting of a 100-bed mobile field hospital that is stored and maintained by the Region 2 South Medical Bio-Defense Network, and a 40-bed mobile field hospital that is stored and maintained by the District 5 Medical Response Coalition. The MI-TESA Medical Unit expands surge capacity, re-establishes emergency triage, and treatment in an area where the healthcare infrastructure has been

[31] https://telehealth.hhs.gov/
[32] HHS, 2018. https://www.phe.gov/Preparedness/planning/hpp/Pages/core-member.aspx

disrupted. The unit may be deployed anywhere within the state, and can be deployed to other states through the Emergency Management Assistance Compact (EMAC)."[33]

The State of Michigan utilizes, on average, roughly 5,000 Canadian nurses each day in southeast Michigan healthcare settings. To ensure these critical medical workers will continue to be available for use during a pandemic, a protocol was created which addresses "Guidelines for the Emergency Cross Border Transit of Medical Personnel." This protocol assists Canadian healthcare workers at the border[34].

For remains management during a pandemic, Michigan has mass fatality resources through the Michigan Mortuary Response Team (MI-MORT) and equipment. MI-MORT can be utilized during a pandemic if the incident overwhelms local mortuary and funeral home resources. While the capabilities of MI-MORT include the ability to provide staffing, equipment, and technical assistance to local and regional jurisdictions to recover, identify, and process deceased victims in a dignified manner, a smaller scope of work, limited to remains management may be provided. The Disaster Portable Morgue Unit contains the equipment and supplies necessary to initiate operations of a fully functional morgue.[26]

To bolster the roster of responders and front-line healthcare team members, volunteers may assistance. The Michigan Volunteer Registry is maintained by BETP/DEPR and targets healthcare personnel with a focus on physicians, nurses, pharmacists, medical examiners, behavioral health professionals, and MI-TESA and MIMORT team members for surge capacity.[35]

All responders will need to be reminded to address their psychosocial needs to help maintain some sense of normal functioning. **Appendix 4** addresses **Responder Health and Safety and Community Psychosocial Health** and provides information on ways for the pandemic response workforce to take care of themselves.

In **Appendix 5**, **Healthcare System Preparedness and Response Activities** are presented by response interval (Investigation, Recognition, Initiation, Acceleration, Deceleration, and Preparation). The MDHHS entity responsible to address each of these activities is also listed below each interval activity grouping.

Communications and Public Outreach

During the CDC's Recognition Interval the MDHHS Executive Group, which includes the MDHHS Communications Director and Public Information Officer, will make recommendations through the SEOC, the Joint Information Center (JIC) and/or the CHECC (if activated), for the development and distribution of any additional public information materials. BETP and the Disability Health Unit will expand outreach efforts to take education materials to locations that serve people with disabilities, and public events related to disability health. All educational materials will be accessible for people with disabilities, including users of assistive technology, to include the development/utilization of a dedicated website for the response, as well as the use of social media.

There are a variety of systems in place to provide situational awareness on a regular basis to internal MDHHS staff and external partners. This includes MIHAN, GovDelivery, and DTMB employee listservs.

[33] MDHHS, 2020. https://www.michigan.gov/mdhhs/0,5885,7-339-71548_54783_54826_56161-237200--,00.html
[34] This protocol is maintained by the Region 2South Healthcare Coalition and the Michigan Bridge Authority.
[35] MI Volunteer Registry 2020. https://www.mivolunteerregistry.org/

Michigan's influenza activity is routinely reported publicly on a weekly basis in the MI Flu Focus report that is produced by the MDHHS Communicable Disease and Immunizations Divisions. The report is distributed via GovDelivery, MIHAN, and posted to the department's influenza website: www.michigan.gov/flu. The public website includes sections specifically for health professions on pandemic influenza. In the event of a pandemic, a dedicated website will be created for the particular novel strain of influenza.[36]

In **Appendix 6**, Communications and Public Outreach Activities are presented by response interval (Investigation, Recognition, Initiation, Acceleration, Deceleration, and Preparation). The MDHHS entity responsible to address each of these activities is also listed below each interval activity grouping.

Scientific Infrastructure and Preparedness

Zoonotic Preparedness:
Swine and avian animals serve as mixing vessels that allows for the influenza virus to mutate[37]. Therefore, MDHHS collaborates with several agencies to monitor viral activity. (Also refer to page 17 regarding "zoonotic surveillance") Collaboration includes:

- MDHHS Zoonotic Section will hold monthly One Health (multi-agency) calls with relevant partners.
- MDSS monitoring for novel flu cases in humans.
- Attending relevant continuing education on the topic of pandemic influenza as offered by CDC, USDA, etc.
- Having plans in place with partners at MDARD and MDNR to notify MDHHS in the event that highly pathogenic influenza strain is identified in domestic or wildlife species.
- Assisting the Zoonotic Section with maintenance and distribution of wildlife disease call tree for state and local agency use when contacted by the public regarding sick wildlife or other animals.
- Monitoring CDC Health Alerts for evidence of highly pathogenic influenza identified in the U.S. or other parts of the world.
- Coordinating with MDARD, Michigan State University, LHDs, and agricultural fair organizers and youth involved in agriculture to monitor, report, and investigate potential illness in exhibitors and their animals.

During a pandemic, the zoonotic section may:
- Serve as SMEs and develop messaging for healthcare providers, the public, and the animal industry on ways to mitigate an outbreak.
- Provide recommendations for biosecurity and infection control procedures, including and utilizing appropriate PPE.
- Collaborate with BOL to identify circulating strains and possible strain or clade mutations.
- Provide consult with healthcare providers and the public.
- Provide recommendations on appropriate antiviral treatment.
- Investigate cases of concern, such as, pediatric deaths.
- Collect and analyze data.

[36] *MDHHS, 2016* – MDHHS Emergency Operations Plan Annex 5: Crisis and Emergency Risk Communications (CERC) Plan
[37] https://www.michigan.gov/documents/mdhhs/Swine_Variant_Influenza_Tool_Kit_654250_7.pdf

Once the pandemic has resolved, animal monitoring will return to normal, MDHHS will:

- Update plans based on recommendations of after-action report.
- Return to routine engagement and monitoring activities.

Domestic and International Response Policy, Incident Management, and Global Partnerships and Capacity Building

Michigan shares an international border with the Canadian province of Ontario and has five major international ports of entry. Four are land border crossings between Michigan and Canada - the Ambassador Bridge in Detroit, the Detroit/Windsor Tunnel, the Sault Ste. Marie Bridge, and the Blue Water Bridge in Port Huron. Detroit Metropolitan Airport is also a port of entry as it serves as a hub for international flights.

MDHHS maintains communications with the CDC and its Quarantine Station to address international traveler issues. As appropriate and in consultation with local partners, MDHHS will assess and summarize the following:

- Effectiveness of international communication and data sharing
- Impact of any border travel restrictions (including secondary, tertiary, and unintended consequences)
- Efficiency of vaccination efforts
- Results of active case monitoring

Currently, International situational awareness to ensure a consistent communication response is provided by the following systems:

- EpiX – The CDC secure communication system for sharing preliminary health surveillance information at the national level. A majority of Surveillance and Infectious Disease Epidemiology (SIDE) staff are users of this system.
- Canadian Integrated Outbreak Surveillance Centre (CIOSC) – Canadian health alert network. A limited number of MDHHS staff are registered on the system and receive alerts. Any alerts with the potential to impact public health in Michigan will be distributed further within MDHHS as appropriate. Michigan Health Alert Network (MIHAN) access is also shared with select Canadian partners.
- Great Lakes Border Health Initiative (GLBHI) – GLBHI is composed of representatives from 7 states (Minnesota, Wisconsin, Indiana, Ohio, Pennsylvania, New York, and Michigan) and the province of Ontario. Conference calls are held every 6 weeks to update partners on any recent infectious disease events of interest.

Appendix 1: Surveillance, Epidemiology, and Laboratory Activities Pandemic Interval Checklists

Public Health Surveillance and Epidemiological Investigation Partners and Stakeholders[38]	
• Agricultural agencies • Clinical laboratories • Clinicians • Community health centers • Environmental health agencies • First responders • Federally Qualified Health Centers • Michigan Pharmacist Association	• Food safety agencies • Health care organizations • Law enforcement agencies • Medical examiner offices • Poison control centers • Public health officials • Michigan Health and Hospital Association • Michigan Primary Care Association
Laboratory Partners and Stakeholders	
• Civil support teams • Clinical laboratories • Emergency management agencies • Environmental health • Epidemiologists • Federal laboratory networks and member laboratories • First responders	• Food safety • Health care providers • Jurisdictional sentinel laboratories • Law enforcement • Licensed Registered Nurses • Non-laboratory response health care providers • Non-LRN public health • Poison control centers

<u>Investigation Phase</u> Epidemiology Activities:

1. Review and update MDHHS Pandemic Response Plan, policies, Communicable Disease Annex, and Traveler Evaluation and Monitoring (TEAM) Protocol.
2. Identify key MDHHS BEPH response staff and provide just-in-time training.
3. Provide technical assistance to regional and local partners for reviewing plans and guidance.
4. Conduct public health surveillance with MDSS, MSSS, ILINet, IHSP, and IHSN.
5. Monitor Michigan sentinel provider weekly submissions.
6. Review Michigan death records for ILI respiratory- associated fatalities.
7. Monitor influenza therapeutics, vaccine, and control guidelines as the situation develops.
8. Provide situational awareness information to health partners via MIHAN and GovDelivery platforms.
9. Contribute to www.michigan.gov/cdinfo and https://www.michigan.gov/emergingdiseases/ updates.
10. Provide recommendations regarding appropriate isolation and quarantine actions to take, if warranted.

[38] CDC, 2019. https://www.cdc.gov/flu/pandemic-resources/pdf/2018-Influenza-Guidance.pdf

11. Provide consultation to LHD and healthcare providers.
12. Coordinate activities with state/local veterinary diagnostic laboratories.

Investigation Phase Laboratory Activities:

13. Develop and distribute guidance for laboratory testing and requirements to meet case definition.
14. Assess and optimize laboratory capacity to detect and characterize influenza cases.
15. Share viruses with CDC and the U.S. Department of Agriculture (USDA).
16. Identify whether state or federal assistance is required to support laboratory activities.
17. Review and revise BOL plans, protocols, and procedures.
18. Provide proficiency training to BOL.
19. Complete assay validation.
20. Preparation of specimen collection kits for distribution.
21. Facilitate specimen submission.
22. Shipping, handling, and transport of specimens.
23. Order additional instruments to account for surge in influenza testing.

Responsible Entity/Entities: Bureau of Epidemiology and Population Health (BEPH) CD Division and Immunization Division; Bureau of Laboratories (BOL)

Recognition Phase Epidemiology Activities:

1. Continue surveillance efforts through MDSS, MSSS, ILINet, IHSP, and IHSN reviews.
2. Review respiratory-caused death records from MDHHS Vital Statistics.
3. Provide communications to LHDs and healthcare providers on appropriate epidemiologic information to collect and sample submission.
4. Develop MDHHS case specific data collection criteria for MDSS.
5. Review and update MDHHS Pandemic Influenza Plan, policies, CD SOP, and TEAM Protocol.
6. Evaluate needs of BEPH to sustain response efforts.
7. Conduct epidemiological investigations and analysis.
8. Locals will perform contact tracing.
9. Provide recommendations for community mitigation measures.
10. Continue to provide consultation to LHDs and healthcare providers.

Recognition Phase Laboratory Activities

11. Confirm all suspected cases at the Michigan Department of Health and Human Services, Bureau of Laboratories (MDHHS BOL).
12. Prepare specimen triage plans and implement surge plans if needed.

Responsible Entity/Entities: BEPH CD Division and Immunization Division and Vital Records Division and BOL

Initiation Phase Epidemiology Activities:

1. Continue surveillance efforts through MDSS, MSSS, ILINet, IHSP, and IHSN reviews.
2. Continue epidemiologic investigations and analysis.
3. Monitor triggers that would modify individual reporting to aggregate reporting.
4. Continue to provide recommendations for community mitigation measures.
5. State and locals continue to identify individuals needing isolation or quarantine.

6. Perform contact tracing.
7. Continue to provide consultation to LHDs and healthcare providers.
8. Continue review of death records.

Initiation Phase Laboratory Activities:

9. Continue to confirm all suspected cases at MDHHS BOL, resources permitting; prepare a plan for limiting testing using surveillance criteria.

Responsible Entity/Entities: CD Division and Immunization Division; and BOL

Acceleration Phase Epidemiology Activities:

1. Continue surveillance efforts through MDSS, MSSS, ILINet, IHSP, and IHSN reviews.
2. Conduct epidemiologic investigations and analysis of select sub-populations.
3. Continue to provide recommendations for community mitigation measures.
4. State and locals continue to identify individuals needing isolation or quarantine.
5. Perform contact tracing.
6. Address reporting of adverse reactions.
7. Determine rates of hospitalization to create a baseline.
8. Continue to provide consultation to LHDs and healthcare providers.
9. Continue review of death records. Determine the percentage of reported death.

Acceleration Phase Laboratory Activities:

10. Provide laboratory confirmation of only a sample of cases as required for virologic surveillance.
11. Implement revised specimen submission protocol per CDC guidance as appropriate.

Responsible Entity/Entities: CD Division and Immunization Division and Vital Records, BOL, Bureau of Local Health Services, and the BETP.

Deceleration Phase Epidemiology Activities:

1. Continue surveillance efforts through MDSS, MSSS, ILINet, IHSP, and IHSN reviews.
2. Continue epidemiologic investigations and analysis of select sub-population.
3. Continue to provide recommendations for community mitigation measures.
4. State and locals continue to identify individuals needing isolation or quarantine.
5. Perform contact tracing.
6. Address reporting of adverse reactions.
7. Determine rates of hospitalization.
8. Continue to provide consultation to LHDs and healthcare providers.
9. Continue review of death records. Determine the percentage of reported deaths.

Deceleration Phase Laboratory Activities:

10. Provide laboratory confirmation of only a sample of cases as required for virologic surveillance.
11. Submit a sample of viruses or specimens to CDC per CDC guidance on revised specimen submission.

Responsible Entity/Entities: CD Division and Immunization Division; and BOL

Appendix 2: Community Mitigation Measures Pandemic Interval Checklists

Community Mitigation – NPI Partners and Stakeholders[39]	
• Agriculture departments • Businesses • Community and faith-based organizations • Environmental health agency • Government agencies • Groups representing and serving populations with access and functional needs • Health care organizations • Jurisdictional emergency management agency	• Law enforcement • Legal authorities • Mental/behavioral health agencies • Public health agencies • School districts • Social services • State radiation control programs • Travel and transportation agencies • Tribes and native-serving organizations

Investigation Phase Activities:

1. Review legal authorities, regulations, and policies related to implementation of community mitigation measures.
2. Consult with MDHHS Public Health Legal Division regarding public health legal resources for a state level response.
3. Involve Michigan State Supreme Court in community mitigation strategies, to include the enforcement of orders (emergency orders, executive orders, protective action orders, etc.).
4. Determine least restrictive community mitigation strategies MDHHS could implement to mitigate the spread of novel influenza.
5. Consult with the Governor's Office to determine triggers for a Governor's declaration of a state of emergency.
6. Collect information regarding upcoming events and large gatherings.
7. Provide guidance to LHDs and tribal health partners regarding community mitigation strategies.

Responsible Entity/Entities: BEPH, BETP, OLHS, Public Health Legal Division

Recognition Phase Activities:

1. Implement social distancing measures such as limiting large gatherings of people, school closings, etc.
2. Initiate Executive Orders through the Governor's office and utilize resources available through Public Health Emergency Declarations from the Secretary of Health and Human Services and Presidential Declarations (Stafford Act).
3. Coordinate implementation of community mitigation measures by LHDs and State entities.
4. Determine if statewide mitigation measures are required versus local measures.
5. Consult with the Governor's Office regarding the need for a state declaration of emergency and executive orders, in addition to or in place of MDHHS issuing Emergency Orders or Protective Action Orders.

[39] CDC, 2019. https://www.cdc.gov/flu/pandemic-resources/pdf/2018-Influenza-Guidance.pdf

Responsible Entity/Entities: BEPH; BETP; OLHS; and Public Health Legal Division

Initiation Phase Activities:

1. Consult with LHDs regarding the issuance of social distancing orders or other emergency orders as well as any need to extend community mitigation measures already in place.
2. Consider if the situation warrants statewide action and determine the appropriate order(s) to be issued by the Director/Chief Medical Executive.
3. Consult with the Governor's Office regarding declaring a state of emergency or actions related to Presidential declarations.
4. If the Governor has declared a state of emergency, coordinate community mitigation orders with the Governor's Office to determine whether these should be issued by MDHHS emergency order or the Governor's executive order. Multiple orders may be put in place. Depending on the response, these actions are implemented by the (state) Supreme court and enforced by the Attorney General, and Local law enforcement.
5. Consider practices discussed in the MDHHS Mass Vaccination Plan and Medical Countermeasure Plan. Initiate implementation of these procedures.

Responsible Entity/Entities: BEPH; BETP; OLHS; and Public Health Legal Division

Acceleration Phase Activities:

1. Consult with LHDs regarding the issuance of social distancing orders or other emergency orders as well as any need to extend community mitigation measures already in place.
2. Consider if the situation warrants statewide action and determine the appropriate order(s) to be issued by the Director.
3. Consult with the Governor's Office regarding declaring a state of emergency or actions related to Presidential declarations.
4. If the Governor has declared a state of emergency, coordinate community mitigation orders with the Governor's Office to determine whether these should be issued by MDHHS or the Governor. Multiple orders may be put in place. Depending on the response, these actions are implemented by the (state) Supreme court and enforced by the Attorney General, and Local law enforcement**.**
5. Consider practices discussed in the MDHHS Mass Vaccination Plan and Medical Countermeasure Plan. Initiate implementation of these procedures.
6. Implement mass fatality plan, as modified to meet the needs of the response[40]. Determine requirements to construct temporary morgue facilities for central remains storage.

Responsible Entity/Entities: BEPH; BETP; OLHS; and Public Health Legal Division

Deceleration Phase Activities:

1. Review and Evaluate the effectiveness of community mitigation measures implemented.
2. Examine and assess lessons-learned. Update Emergency Response Plans accordingly.
3. Determine when and how to relax community mitigations measures currently in place.

[40] See Annex 10 of the MDHHS EOP

4. If statewide measure were implemented, coordinate the lifting of emergency orders with the Public Health Legal Division and the Governor's Office as appropriate (recognizing that this may be geographically phased in based on epidemiology data and response to measures).

Responsible Entity/Entities: BEPH; BETP; OLHS; and Public Health Legal Division

Community Mitigation Measures/Pandemic <u>Preparation Phase</u> Activities:

1. Evaluate the effectiveness of the community mitigation strategies implemented.
2. Develop mechanisms to obtain feedback from internal and external partners (e.g. surveys, conference calls, after-action meetings, and etc.).
3. Identify corrective actions and develop AAR/IP.
4. Exercise corrective actions identified in AAR/IP.
5. Update response plans as needed.

Responsible Entity/Entities: BEPH; BETP; OLHS; and Public Health Legal Division

Appendix 3: Medical Countermeasures (MCM) Pandemic Interval Checklists

MCM partners and stakeholders may include the following:[41]	
• Emergency management agencies • Emergency medical services (EMS) • Environmental health agencies • Epidemiology programs • Federal groups and organizations • Government agencies • Health care coalitions • Health care organizations • Hospitals and health care facilities • Immunization programs security • Laboratory programs • Law enforcement agencies • Jurisdictional office(s) of homeland • Medical professional organizations	• Mental/behavioral health services • Military installations and other federal facilities • Organizations representing persons with disabilities or persons requiring specialized access and functional accommodations • Pharmacies • Private organizations that may function as dispensing or vaccination sites • Public health agencies • Public Health Service Commissioned Corps • Radiation control programs • Surveillance programs • Tribes and native-serving organizations • Volunteer groups

Investigation Phase Activities:

1. Exercise and review (annually) the Michigan Strategic National Stockpile (MISNS) Plan.
2. Prepare for antiviral distribution and share preparation information with partners.
3. Conduct the annual review of Receipt, Stage, and Store (RSS) sites through completion of required checklists.
4. Ensure operational readiness through recruitment of medical countermeasure personnel, including volunteers.
5. Initiate the use of state contracts to provide materials needed.
6. Coordinate with MDHHS Division of Immunizations to ensure adequate cold chain management procedures and training are in place.
7. Maintain MDHHS logistics functions for MDHHS Pandemic Influenza Plan and SNS Plan for:
    - Cold chain management
    - Receipt/inventory control
    - Activation and deployment
    - Security
    - Distribution
    - Dispensing/Administration
    - Legal considerations
8. Coordinate with MDHHS Chief Medical Executive to ensure approved and signed antiviral standing orders, pre-exposure prophylaxis and post-exposure prophylaxis.
9. Provide guidance to local SNS and Pandemic Influenza Plan maintenance.

[41] CDC, 2019. https://www.cdc.gov/flu/pandemic-resources/pdf/2018-Influenza-Guidance.pdf

10. Provide reviews and perform the following actions:
    - Request assistance from the State of Michigan/ DTMB
    - Identify and develop operational plans for hospitals, receiving sites, and dispensing/vaccination clinics
    - Plans to equip and staff dispensing/vaccination clinics
    - Procedures to dispense/vaccinate the public, including at-risk populations and essential personnel
    - Track dispensed/administered countermeasures in MCIR
11. Develop recommendations for vaccine target groups based upon federal guidance (ACIP), epidemiologic and surveillance data.
12. Coordinate with Michigan State Police (MSP) Emergency Management and Homeland Security Division (EMHSD) to identify and prioritize critical infrastructure groups.
13. Update Continuity of Operations (COOP) and Continuity of Government (COG) preparedness plans.

Responsible Entity/Entities: BETP/DEPR, Division of Immunizations

Recognition Phase Activities:

1. Contact Centers for Disease Control and Prevention (CDC) for vaccine allotment.
2. Determine vaccine allocation.
3. MDHHS executive group determine allocation plan for identified target groups.
4. Formalize critical infrastructure and essential personnel planning for allocation.
5. Recommend allocation plan for critical infrastructure and target groups.
6. Notify stakeholders and public of allocation.
    - Coordinate with public health and healthcare sector
    - Coordinate with MDHHS Communications for outreach
7. Educate local public health and healthcare sector partners on recommended treatment, prophylaxis, and infection control guidelines.
8. Assess existing pharmaceutical caches, including material deployed in local, state, and regional stockpiles.
9. Request antivirals and assets from the Strategic National Stockpile.
    - Determination by Governor
10. Activate SNS/MCM personnel and facilities to prepare for the receipt and distribution of antivirals and equipment.
11. Modify/update existing standing orders. Create new standing orders, as needed.
12. Coordinate the distribution and receipt of vaccine with local health departments and provider agencies.
13. Update/issue standing order for vaccines based on need.
14. Issue just-in-time training for vaccine information.
15. Conduct MCIR training for local/regional personnel.
16. Reassign or hire staff to assist with MCIR duties and vaccine logistics, as needed.
17. Assess adverse events to vaccines and therapeutics.
18. Coordinate with stakeholders, such as MPA, MHA, MPCA, and FQHCs for outreach activities.

Responsible Entity/Entities: BETP/DEPR; and Divisions of Communicable Disease and Immunizations

Initiation Phase Activities:

1. MDHHS Executive Group recommend a formal request for vaccine and issue an emergency declaration for medical supplies and staff.
2. Receive antivirals and auxiliary supplies at RSS sites.
3. Update inventory record.
4. Coordinate the request for received medical countermeasures.
5. Forward to RSS, once completed and coordinate with MDHHS Immunizations for use of MCIR, include batch upload of material.
6. Implement use of MISNS SharePoint Request Site[42].
7. Issue appropriate standing orders, Executive Orders, Emergency Use Authorizations (EUAs), and screening materials.
8. Determine the need for Alternate Care Site(s) (ACS), and/or utilization of Federal Medical Stations[43].
9. Ensure chain of custody for distributed therapeutics and supplies.
10. Ensure inventory management and quality control measures are in place.
11. Distribute and transport medical materiel from RSS through state assets or commercial vendors.
    - Ensure all assets are secured during transport.
12. Arrange for security with dispensing/administration operations and/or vendors.
    - Coordinate with MSP EMSHD for secure escort of emergency medical countermeasures during transport from RSS facilities to partners and/or warehousing operations
    - Coordinate with MSP EMSHD to secure State of Michigan RSS facilities
    - Coordinate with LHD
13. Issue guidance to providers regarding how to communicate cold chain issues or product damage.
13. Ensure personnel practice current prevention and infection control measures.
14. Identify and develop operational plans for treatment centers, receiving sites, and dispensing/vaccination clinics.
15. Define the best way to dispense vaccine to/for vulnerable populations (children, elderly, chronically ill).
16. Coordinate the distribution and receipt of vaccine with local health departments and provider agencies.
17. Continue to provide just-in-time training for VIS collect.
18. Conduct MCIR training for local/regional personnel.
19. Track dispensed/administered countermeasures in MCIR and report adverse events.

Responsible Entity/Entities: BETP/DEPR; and Divisions of Immunization and Communicable Disease

Medical Counter Measures/Pandemic Acceleration Phase Activities:

1. Monitor and respond to surge in healthcare needs, including setting up alternative care sites, if appropriate.
2. Educate clinicians and the public about the need for prompt treatment of ill persons and those with behavioral health needs.

[42] https://www.misnsrequest.org

[43] https://www.kdheks.gov/cphp/download/cacs_template/FMS_Fact_Sheet.pdf

3. Review and prepare to deploy mortuary surge, if necessary.
4. Monitor antiviral use to identify possible shortages.
5. Pre-planning for medical waste management with commercial corporations.

Responsible Entity/Entities: BETP/DEPR; and Divisions of Communicable Disease and Immunizations

Deceleration Phase Activities:

1. In collaboration with epidemiology, local health departments, and healthcare providers, initiate targeted cessation of surge capacity strategies, as appropriate.
   -Consult with CDC, MDHHS Executive Group, and SNS Coordinators.
2. Request resupply of antivirals and medical supplies, to include, but not limited to ancillary supplies and potential vaccinations available.
3. Continue antiviral drug distribution and dispensing; following the vaccine allocation and distribution plan.
4. Facilitate ongoing vaccination requests. Return/dispose of unused vaccination and medical waste[44].

Responsible Entity/Entities: BETP MCM; and Divisions of Communicable Disease and Immunizations

Medical Counter Measures/Pandemic Preparation Phase Activities:

1. Monitor medical surge trends
2. Coordinate with local, regional, and state partners to replenish available stockpiles.
3. Monitor and report on antiviral dispensing and vaccine administration trends associated with response.
4. Continue vaccination with a focus on hard-to-reach populations, in anticipation of subsequent waves that may occur.
5. Revise SNS and Pandemic Influenza Plan.
6. Identify and develop operational plans for treatment centers, receiving sites, and dispensing/vaccination clinics.
7. Analyze dispensed/administered countermeasures in MCIR.

Responsible Entity/Entities: BETP MCM; and Divisions of Communicable Disease and Immunizations

[44] CDC, 2015. https://www.cdc.gov/infectioncontrol/guidelines/environmental/background/medical-waste.html

Appendix 4: Disaster Behavioral Health/Responder Safety & Health/Workforce Psychosocial Support

MDHHS has included two annexes in the MDHHS EOP which address both physical and psychological safety and health of responders and the general health of the community during a pandemic: Disaster Behavioral Health (Annex 7) and Responder Safety Health Plan (Annex 16). Please refer to the appropriate Annex number in the MDHHS EOP for full details included in those plans. A summary of the information from those annexes is included below.

Annex 7. Disaster Behavioral Health Plan

Purpose: The response plan addresses the mental and behavioral impacts of disasters, such as high levels of stress, anxiety, depression, feelings of helplessness; and, to foster resilience as a foundation of community health. This plan describes the capabilities of the department to facilitate the provision of:

- Psychological First Aid
- Critical Incident Stress Management, and
- The federal Crisis Counseling and Training Program (CCP).

The MDHHS plays a supporting role in any disaster behavioral/mental health response. Most behavioral/mental health services are provided in private sector, outpatient settings. These services are delivered through Community Mental Health Services Programs (CMHSPs) that have been established by county governments and all services are based on Michigan's Mental Health code. Michigan's publicly-funded mental health and substance abuse services delivery system is community-based. Therefore, the role of the MDHHS Behavioral Health and Developmental Disabilities Administration (BHDDA) is that of a fiduciary rather than a direct provider of services, except for services provided to consumers in state hospitals and centers.

The Michigan Emergency Management Plan (MEMP) assigns the MDHHS to support local assessments of mental health needs. CMHSPs are responsible for ensuring that an adequate needs assessment is conducted to determine the psychological impact of the disaster on victims and response personnel, and to provide recommendations for appropriate action. Normally, personnel from the affected CMHSP will conduct this needs assessment in conjunction with the local emergency management program(s) within its jurisdiction. Whenever possible, the needs assessment will be conducted as part of the local government's initial disaster assessment process. The MDHHS will provide technical assistance and support as requested and available.

The MEMP also assigns MDHHS to support the provision of crisis counseling services. CMHSPs contribute to crisis counseling services via providers for disaster victims and local emergency response personnel. This is done in cooperation with private sector mental health service providers and non-governmental organizations such as the American Red Cross. The MDHHS will provide technical consultation and supplemental assistance as requested and available.

In the event of a major disaster that affects multiple jurisdictions within the state and overwhelms state and local resources, the MDHHS is responsible for coordinating the State's application to FEMA for the

federal Crisis Counseling Program (CCP), or other available grant opportunities. The MDHHS BHDDA director or designee is responsible for preparing and submitting the application and, if the application is approved, manages these resources.

To support its own personnel, the MDHHS participates in the Traumatic Incident Stress Management (TISM) program that is coordinated by the Department of Technology, Management and Budget (DTMB). The department will call on the TISM program to address the needs of MDHHS personnel during an emergency response.

Assigned to: MDHHS Emergency Management Coordinator, and Bureau of Health and Developmental Disabilities Administration

Plan Location: MIHAN

Security Classification: FOUO

Annex 16: Responder Safety and Health Plan (RSHP)

Purpose
The RSHP provides an outline of the requirements for worker safety and health protection for MDHHS responders. MDHHS will designate a safety officer for each emergency response who will be responsible for the implementation of this plan, including site-specific procedures to protect responders before, during, and post-deployment. Specific operations or locations may contain potential hazards not considered in this plan that may require additional protection. It is the responsibility of each field location incident commander to designate a *Site Safety Officer* to assess and implement a plan for site-specific safety requirements.

The MDHHS is responsible for the development, maintenance, and application of this document. The policies and procedures described in this plan apply to all responders who may be deployed under the oversight of MDHHS when responding to an emergency or disaster, including field operations, CHECC staff assignments, and off-site support of the CHECC. The RSHP does not address emergency response functions of the MDHHS Bureau of Laboratories, which has its own health and safety plan, or emergency response functions of those administrative units outside of MDHHS Population Health Administration. It is not intended to replace or supersede safety procedures of other responding agencies.

The expectation is that the safety procedures described in this plan reflect, to the degree possible, non-disaster procedures in which some staff are already trained, recognizing that greater caution to safety may be necessary in some incident settings. In addition, the plan addresses the fact that some staff who are less experienced in certain tasks may be responsible for conducting those tasks during a response. The authority of the Incident Response Coordinator (IRC), Site Safety Officer, or designee takes precedence over routine safety procedures. This document is intended to guide, not limit, actions of leadership assigned to ensuring the health and safety of responders.

It is the responsibility of MDHHS Administration to provide a safe and healthy workplace. If the responder is deployed to a non-MDHHS facility, it is that facility's responsibility in cooperation with

MDHHS to provide a safe and healthy workplace, in conjunction with Human Resources (HR) and the Office of the State Employer (OSE).

Worker Responsibilities

Employees are responsible for complying with established work rules and to use assigned Personal Protective Equipment (PPE). Responders who identify hazards shall immediately notify the Site Safety Officer and their supervisor, and may refuse to perform any task that will place them in imminent danger when following the proper procedure. Imminent danger is defined as, a hazard that puts the responder or others at immediate serious risk of death or physical harm before the danger can be eliminated. If a responder identifies an imminent danger situation, the following procedure must be followed:

- Notify the Site Safety Officer and their supervisor(s) and request corrective action or request protection until the hazard can be eliminated.
- Refuse work if imminent danger is not corrected. An inspection by the Site Safety Officer, or other designee will be arranged immediately upon any report of imminent danger, to confirm the hazards and applicable corrective actions.

Work Rules and Expectations

All responders must adhere to the following work rules:

- Follow safety and health policies at all times
- Follow the Site Safety Officer and their supervisors' instructions and adhere to the incident command structure
- Follow personnel accountability instructions
- Obtain required vaccinations and medical pre-approval that may be required prior to deployment
- Promptly report all injuries, accidents, illnesses and near misses (any unplanned events that did not result in injury, illness, or damage – but had the potential to do so)
- Seek medical attention as needed
- Maintain constant awareness of surroundings
- Report all unsafe conditions
- Do not perform tasks until proper safety and health controls are put into place
- Responders may refuse to perform tasks that expose them to an imminent danger
- Wear all PPE assigned for the task
- Always work using the buddy system
- Maintain continuous awareness/contact with assigned buddies
- Partake in all required trainings
- Ensure all appropriate licenses are current

Legal Authority

The Michigan Occupational Safety and Health Administration (MIOSHA) has legal responsibility for enforcing requirements of the Federal Occupational Safety and Health Act of 1970 (OSHA) and

Michigan-specific standards are adopted under this authority. The goal of the OSHA is to ensure that employers provide employees with an environment free from recognized hazards.[45]

Workers compensation for MDHHS staff and contractors may be covered by their respective employers for work-related injuries and illnesses.[46] Only volunteers registered and deployed through the Michigan Volunteer Registry are covered for workers' compensation, if needed (i.e. if they are not covered by another agency for workers' compensation).[47]

Reference: Excerpted directly from the HHS Pandemic Influenza Plan (2005), Supplement 11 on Workforce Support: Psychosocial Considerations and Information Needs

- Extensive information is provided in this Supplement which addresses all areas of Workforce Psychosocial support, including how responding to a pandemic might impact the family of a Responder/Health Care Worker.
- Language has been converted from the U.S. Pandemic Stage terminology and updated to represent the corresponding U.S. Pandemic Interval.

INVESTIGATION/RECOGNITION INTERVALS

Healthcare institutions, state and local health agencies, first-responder organizations, and employers of essential service workers:

- Institutionalize psychosocial support services for employees who participate in or provide support for the response to public health emergencies such as influenza pandemics.
- Prepare educational and training materials on psychosocial issues for distribution to employees during an influenza pandemic.

State and local health departments and other groups:

- Lay the groundwork for the development and implementation of workforce resilience programs to maximize responders' performance and personal resilience during a public health emergency.
- Use behavioral health expertise to develop public health messages, train staff on the use of personal protective equipment (PPE), and conduct other relevant activities.

MDHHS agencies:

- Create, collect, and provide educational and training materials on psychosocial issues related to pandemic influenza for use by hospital administrators, emergency department staff, safety and security professionals, behavioral health providers, social workers, psychologists, chaplains, and others.
- Provide guidance on the development of self-care strategies and workforce resilience programs.

[45] **MIOSHA, 2012.** https://www.michigan.gov/documents/CIS_WSH_part**432**_37816_7.pdf, https://www.michigan.gov/documents/CIS_WSH_part**433**Rev_53316_7.pdf, and https://www.michigan.gov/documents/dleg/WSH_OH-**554**_Bloodbourne_Diseases_350806_7.pdf

[46] Legislative Council, State of Michigan, 1969**.** http://www.legislature.mi.gov/(0czyc0qhfdwzqjiz1upjmmns)/documents/mcl/pdf/mcl-317-1969-3.pdf

[47] Michigan Volunteer Registry, 2019. https://www.michigan.gov/documents/mdch/LEGAL_ISSUES_258700_7.pdf

INITIATION/ACCELERATION/DECELERATION/PREPARATION INTERVALS

Healthcare institutions, state and local health agencies, first-responder organizations, and employers of essential service workers:

- Provide psychological and social support services for employees and their families.
- Address stigmatization issues that might be associated with participation in such services.

Healthcare institutions:

- Provide employees with ongoing access to up-to-date information on healthcare and training issues, as well as on the national and local status of the pandemic.

State and local health departments and other groups:

- Implement workforce resilience programs.
- Re-asses term conditions in comparison to past trends to inform decision making.

MDHHS agencies:

- Provide medical, public health, and community partners with educational and training materials on psychosocial issues related to pandemic influenza.
- Provide occupational health guidance on psychosocial issues related to the pandemic, including information on anticipated reactions to restrictive public health measures such as quarantine.

DURING ALL INTERVALS: IMPLEMENTING WORKFORCE RESILIENCE PROGRAMS

- During an influenza pandemic, state and local health agencies should consider implementing workforce resilience programs that meet the special needs of deployed workers—including workers who do not change job site but whose assignments shift to respond to the pandemic—and the central operations personnel who support them around the clock.
- First-responder or nongovernmental organizations that send employees or volunteers to assist patients at home or in hospitals might establish similar programs.
- Workforce resilience programs could provide the following services:

1. Pre-deployment/assignment
    - Conduct briefings and training on behavioral health, resilience, stress management issues, and coping skills.
    - Train supervisors in strategies for maintaining a supportive work environment.
2. During deployment/assignment
    - **To support responders in the field:**
        - Deploy several persons as a team and/or assign “buddies” to maintain frequent contact and provide mutual help in coping with daily stresses.
        - Frequently monitor the occupational safety, health, and psychological well-being of deployed staff.
        - Provide access to activities that help reduce stress (e.g., rest, hot showers, nutritious snacks, light exercise).
        - Provide behavioral health services, as requested.
    - **For central operations personnel:**

        - Enlist stress control or resilience teams to monitor employees' occupational safety, health, and psychological wellbeing.
        - Establish rest and recuperation sites, and encourage their use.
        - Provide behavioral health services, as requested.
    - **For families of responders:**
        - Enlist employee assistance programs to provide family members with instrumental support (e.g., assistance obtaining food and medicine) and psychosocial support (e.g., family support groups, bereavement counseling, and courses on resilience, coping skills, and stress management).
        - Provide a suggestion box for input via e-mail or anonymous voice-mail with a toll-free number.
        - Continue to provide outreach to employees' families to address ongoing psychological and social issues.
        - Throughout the response, policies on personnel health and safety should be reviewed and revised, as needed.

3. Post-deployment/assignment
    - Interview responders and family members (including children) to assess lessons learned that might be applied to future emergency response efforts.
    - Provide ongoing access to post-emergency psychosocial support services for responders and their families (on-site or through partner organizations).
    - Conduct an ongoing evaluation of the after-effects of the pandemic on employees' health, morale, and productivity through out-processing techniques, as appropriate.

PSYCHOSOCIAL ISSUES FOR RESPONSE WORKERS

Psychosocial issues that response workers might need to address include:

- Illness and death among colleagues and family members
- Fear of contagion and/or of transmitting disease to others
- Shock, numbness, confusion, or disbelief; extreme sadness, grief, anger, or guilt; exhaustion; frustration
- Sense of ineffectiveness and powerlessness
- Difficulty maintaining self-care activities (e.g., getting sufficient rest)
- Prolonged separation from family
- Concern about children and other family members
- Constant stress and pressure to keep performing
- Domestic pressures caused by school closures, disruptions in day care, or family illness
- Stress of working with sick or agitated persons and their families and/or with communities under
- quarantine restrictions
- Concern about receiving vaccines and/or antiviral drugs before other persons

These issues may be exacerbated by:

- Lack of information
- Rumors, misconceptions, or conspiracy theories
- Loss of faith in health institutions, employers, or government leaders
- Belief that medical resources are not available or fairly distributed
- Death of immediate supervisors or other leaders in the response effort
- Mass casualties and deaths among children
- Economic collapse or acute shortages of food, water, electricity, or other essential services
- Restrictions on civil liberties that are perceived to be inequitable
- Infection control procedures that limit personal contact or hinder communications

PSYCHOSOCIAL ISSUES FOR FAMILIES OF RESPONSE WORKERS

- The families of responders will face many challenges in addition to the fears and disruptions that everyone will face during a pandemic. For example:
- Responders might be frustrated, tired, worried, irritable, argumentative, restless, emotional, or distressed.
- Responders might be impatient and less understanding, energetic, optimistic, good natured, or helpful than usual.
- Increased emergency workloads (which might be exacerbated by staffing shortages) can make it difficult for responders to communicate regularly with family members.
- Family members might experience stigmatization or discrimination.

IMPACT OF PANDEMIC INFLUENZA ON HEALTHCARE WORKERS

In addition to the issues faced by all response workers, healthcare workers may experience:

- Increased risk of exposure to pandemic influenza
- Constant need to take special precautions to avoid exposure to the pandemic virus
- Illness and death among patients, as well as among colleagues and family members
- Stigmatization and discrimination associated with being perceived as a source of contagion
- Ethical dilemmas, such as conflicts between one's roles as healthcare provider and parent/spouse, or concern about receiving vaccines or antiviral drugs before other people
- Increased difficulty in performing crucial tasks and functions as the number of severely ill patients increases, the healthcare staff decreases, and medical and infection control resources are depleted
- Frustration regarding the need/expectation to maintain business as usual
- Physical isolation associated with use of infection control measures that limit interpersonal contact
- Plan for long-term considerations for individuals to include, but not limited to: working in separate structures, mobile registration and services, utilizing telemedicine, performing at-home testing, and disinfection PPE options.

Appendix 5. Health Care System Preparedness (Medical Surge) and Response Activities Pandemic Interval Checklists

Medical Surge/Health Care System Preparedness Partners and Stakeholders may include the following[48]:	
• Ambulatory care providers • Clinics • Emergency management agencies • Emergency medical services (EMS) • Environmental health • Fire departments • Healthcare coalitions • Healthcare organizations • Health professional volunteer entities • Law enforcement agencies • Long-term care agencies	• Mental/behavioral health pharmacies • Poison control centers • Public health agencies • Public works • Social services • Stand-alone emergency rooms • State hospital associations • Tribes and native-serving organizations • Urgent care • Volunteer organizations

Healthcare System Preparedness and Response Activity/Pandemic Investigation Phase Activities:

1. Provide situational awareness information to health partners via MIHAN, GovDelivery, and regular conference calls.
2. Provide updates to www.michigan.gov/cdinfo updates.
3. Provide recommendations regarding appropriate isolation and quarantine actions to take, if warranted.
4. Provide consultation to LHD, Regional Healthcare Coalitions and healthcare providers.
5. Share infection prevention and control measures with partners
6. Provide technical assistance to LHDs and HCCs as they review and update plans.
    - Monitor CDC ASPR TRACIE and other websites as applicable and share with partners, including regional healthcare coalition and healthcare providers[49].
7. Ensure dedicated calls to specific disciplines for sharing information, such as with healthcare providers, healthcare coalitions, EMS, LTC, and local health departments.
8. Determine facility capacity thresholds, such as space availability and staffing.
9. Increase reporting in EMResource for bed availability and other pertinent information.
10. Share Crisis Standards of Care (CSC) information.
11. Facilitate the Regional HCC submitting routine situation reports.

Responsible Entity/Entities: BETP HPP

Healthcare System Preparedness and Response Activity/Mass Fatality Investigation Phase Activities:

1. Monitor CDC and other applicable websites and share information with medical examiners and funeral directors as information becomes available.
2. Monitor morgue capacities within hospitals.

[48] CDC, 2019. https://www.cdc.gov/flu/pandemic-resources/pdf/2018-Influenza-Guidance.pdf.

[49] https://asprtracie.hhs.gov/

3. Provide current information to hospitals on fatality management planning considerations.
4. Work with state partners for unclaimed remains and death reporting with MDHHS Vital Records, and the MDHHS State Emergency Relief Program.
5. Consider making MIMORT team members temporary state employees, by working with MDHHS HR (refer to BETP/DEPR for process to do so).
6. Regularly inform and update MIMORT team members on the evolving situation and anticipated needs.
7. Prepare MIMORT trailers for deployment.
8. Identify and monitor potential facility needs to ensure locations are centralized, capacity to manage surge operations, and potential bottlenecks.

Responsible Entity/Entities: BETP/DEPR

Healthcare System Preparedness and Response Activity/Pandemic <u>Recognition Phase</u> Activities:

1. Continue to provide consultation to LHD, Regional Healthcare Coalitions and healthcare providers.
2. Continue to share infection prevention and control measures with partners
3. Continue standing calls organized for information updates to healthcare providers, healthcare coalitions and local health departments.
4. Additional communications on early travel advisories.
5. Review and update MCM distribution plan.
6. Post social media updates and information as necessary
7. Provide situational awareness to volunteers.
8. Begin monitoring PPE supplies at hospitals, HCCs and LHDs
9. Share instructions, as found on CDC, for cohorting, immediate bed availability, etc.
10. Email stakeholders (HCC, LHD, EMS, etc.) routinely with updated information.

Responsible Entity/Entities: BETP HPP

Healthcare System Preparedness and Response Activity/<u>Mass Fatality Recognition Phase</u> Activities:

1. Monitor CDC and other applicable websites and share information with medical examiners and funeral directors as information becomes available.
2. Share Vital Statistics recommendations for death certificates.

Responsible Entity/Entities: BETP HPP

Healthcare System Preparedness and Response Activity/Pandemic <u>Initiation Phase</u> Activities:

1. Continue to provide consultation to LHD, Regional Healthcare Coalitions and healthcare providers.
2. Continue to share infection prevention and control measures with partners.
3. Continue standing calls organized for information updates to healthcare providers, healthcare coalitions and local health departments.
4. Continue additional communications on travel advisories.
5. Post social media updates and information as necessary.
6. Continue monitoring PPE supplies at hospitals, HCCs and LHDs
7. Continue sharing instructions, for medical surge.

8. Email stakeholders (HCC, LHD, EMS, etc.) daily with updated information.
9. Investigate the need to modify EMResource platform for data collection.

Responsible Entity/Entities: BETP HPP

Healthcare System Preparedness and Response Activity/Mass Fatality Initiation Phase Activities:

1. Monitor CDC and other applicable websites and share information with medical examiners and funeral directors as information becomes available.
2. Prepare information for MI-MORT, MEs and Funeral Directors and morgues for storage and other considerations depending on situation (percent mortality, etc.)

Responsible Entity/Entities: BETP HPP

Healthcare System Preparedness and Response Activity/Pandemic Acceleration Phase Activities:

1. Continue to provide consultation to LHD, Regional Healthcare Coalitions and healthcare providers.
2. Continue to share infection control measures with partners
3. Continue standing calls organized for information updates to healthcare providers, healthcare coalitions and local health departments.
4. Continue additional communications on travel advisories.
5. Post social media updates and information as necessary
6. Continue monitoring PPE supplies at hospitals, HCCs and LHDs
7. Continue sharing instructions, for medical surge.
8. Receive SNS and distribute to LHDs and HCCs for further distribution to partners (HCP)
9. Email stakeholders (HCC, LHD, EMS, etc.) daily with updated information.

Responsible Entity/Entities: BETP HPP

Healthcare System Preparedness and Response Activity/Mass Fatality Acceleration Phase Activities:

1. Monitor CDC and other applicable websites and share information with medical examiners and funeral directors as information becomes available.
2. Share information with stakeholders for establishing remains transport, burial and storage guidelines.[50]

Responsible Entity/Entities: BETP HPP

Healthcare System Preparedness and Response Activities/Pandemic Deceleration Phase Activities:

1. Continue to provide consultation to LHD, Regional Healthcare Coalitions and healthcare providers.
2. Continue to share infection control measures with partners
3. Continue standing calls organized for information updates to healthcare providers, healthcare coalitions and local health departments.
4. Continue additional communications on travel advisories.
5. Post social media updates and information as necessary

[50] See Attachment 5.7 within Annex 10 of the MDHHS Mass Fatality Plan

6. Continue monitoring PPE supplies at hospitals, HCCs and LHDs – decreased frequency, until supply chain is restored.
7. Continue sharing instructions, for medical surge.
9. Email stakeholders (HCC, LHD, EMS, etc.) weekly with updated information.

Responsible Entity/Entities: BETP HPP

Healthcare System Preparedness and Response Activity/<u>Mass Fatality Deceleration Phase</u> Activities:
1. Monitor CDC and other applicable websites and share information with medical examiners and funeral directors as information becomes available.
2. Share information with stakeholders as requesting including burial and storage guidelines.

Responsible Entity/Entities: BETP HPP

Healthcare System Preparedness and Response Activities/Pandemic <u>Preparation Phase</u> Activities:

1. Work with partners to ensure preparedness steps are in place to ensure healthcare system is better prepared for the next wave of activity.

Responsible Entity/Entities: BETP/DEPR

Appendix 6: Communications and Public Outreach Pandemic Interval Checklists

Communications and Public Outreach Partners and Stakeholders may include the following[51]:	
• Clinical and other professional organizations • Critical infrastructure services • Community and non-profit agencies • Emergency management agencies • Emergency response organizations • Environmental health agencies • Federal, state, local, tribal, and territorial agencies • Food safety and agricultural representatives • Fusion centers • Hazardous material regulators and responders	• Health care coalitions • Health care organizations • Health care providers • Health information exchanges • Immunization programs • Medical examiner or coroner offices • Mental/behavioral health agencies • Pharmacies • Private sector organizations • Public health agencies • Tribes and native-serving organizations

Investigation Phase Activities:

1. Introduce the pandemic concept to the public, with a reminder of previous pandemics to help understanding, to include a dedicated website, public service announcements, press releases, and working with publication/marketing entities.
2. Introduce the concept of the pandemic waves and phases.
3. Provide details on what is known and what MDHHS is doing to prepare for the impending pandemic. Such as, reminding the public that this is not an if, but when the pandemic will happen.
4. Create fact sheets, develop social media postings, and update MDHHS influenza website.
5. Develop media campaign identifying paid and organic opportunities/vehicles based on resources available.

Responsible Entity/Entities: BETP Communications; MDHHS Communications

Recognition Phase Activities:

1. Define for the public, the concepts of isolation and quarantine.
2. Communicate the need to cancel public gatherings and events in the near future.
3. Alert public to possible school closure.
4. Remind the public to stay home if they are sick.
5. Develop a relief strategy for the surge of staff.

[51] CDC, 2019. https://www.cdc.gov/flu/pandemic-resources/pdf/2018-Influenza-Guidance.pdf.

Responsible Entity/Entities: BETP Communications; MDHHS Communications

Initiation Phase Activities:

1. Communicate the need to cancel public gatherings and events.
2. Alert the public as to the reason for confirmed school closures.
3. Remind the public to stay home if they are sick.
4. Provide route of communicate to work establishments that normally do not provide sick leave, to consider providing it to prevent transmission.

Responsible Entity/Entities: BETP Communications; MDHHS Communications

Acceleration Phase Activities:

1. Continue to stress social distancing and to stay home if sick.
2. Continue to stress closing facilities as means to mitigate pandemic.
3. Communicate when to get a vaccine or antiviral to the public.
4. Develop media campaign identifying paid and organic opportunities/vehicles based on resources available.

Responsible Entity/Entities: BETP Communications; and MDHHS Communications

Deceleration Phase Activities:

1. Continue vaccination messaging to the public.
2. Alert the public as to when public gatherings and activities can occur.

Responsible Entity/Entities: BETP Communications; and MDHHS Communications.

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